THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

ARTICLE I. *Report of four additional cases of Stone in the Bladder, in which the operation of Lithotripsy was successfully performed.* By J. RANDOLPH, M. D., Lecturer on Surgery, one of the Surgeons to the Pennsylvania Hospital, &c. &c.

Since my last report upon the subject of lithotripsy, made in the Number of this Journal for November, 1836, I have performed this operation in four instances. The two first of these (making my fourteenth and fifteenth cases) occurred in the Pennsylvania Hospital in this city, and the report of them is furnished by my friend, Dr. James A. M'Crea, who was at that period house surgeon to this institution.

The sixteenth case occurred in an old gentleman of this city, seventy-three years of age, who had been for a considerable period under the particular charge of Dr. H. M'Murtrie, and this gentleman has had the kindness to furnish the statement of this case. The seventeenth case is that of a young gentleman, also of this city, who was cured most happily in a very short period, as will be seen by the report.

The following is Dr. M'Crea's account of the two first cases:

"I trust the following cases will prove interesting to the readers of the American Journal, inasmuch as they are the first in which the complaint of stone in the bladder has been cured in the Pennsylvania Hospital by any other than a cutting operation.

"Within the last five years the instruments of M. Civiale and M.

Jacobson were employed in the treatment of several cases of calculus (not the most favourable, however,) without success, and great anxiety was felt by all those connected with the institution that the operation should be established upon its records by a favourable result.

"This, I am happy to state, has been accomplished in two cases; the latter, as will appear in its details, was one of the most unfavourable that could have possibly presented, and the successful treatment of which speaks volumes for the inestimable value of the operation, the case being one in which the gorget or scalpel could have offered very little hope of relief, thereby demonstrating the superiority of lithotripsy over any and every other method of treating urinary calculus.

"Before entering upon the first case it may be well to mention, as indicative of the strong feeling in favour of the operation among the people of our country, that Mr. Askine came to the city predetermined to submit to no other operation before he had tested this, and confident that he would shortly return to his family perfectly restored.

"Case XIV.—Mr. Askine, aged 32 years, cabinet-maker by trade; of robust frame; cheerful disposition; good general health; admitted into the Hospital on the 26th of October, 1836. He had travelled from Pittsburg, where he has resided for the last 13 years, chiefly by water, with great comfort, very little exacerbation of symptoms being produced by the journey.

"The complaint had manifested itself about six months ago, (May last,) by the symptoms usually characterizing its early stages, and continued to advance without much distress for three months. Since that time he has been unable to retain his urine for a longer period than one to two hours, and towards the close of the day, after moderate exercise, this period was much shortened. He has suffered several times from acute inflammation of the bladder, which was subdued by rest, leeches, and other antiphlogistic treatment. He had also several attacks of irritation and inflammation about the sphincter ani, productive of great pain and inconvenience. With the exception of these occasions, he has superintended his business since his attack. The character of the urine has been turbid, occasionally a great deal of mucus and sediment accompanying its discharge; quantity very variable.

"*Oct. 27th.* Has had a restless night, passing his urine very frequently—hourly, almost; with a disposition to chilliness, to which it may be stated he has been unusually subject ever since the commencement of his disease. Pulse 92 per minute, with slight thirst and heat of skin. R. mixt. neut. ℥ss. occasionally; tepid fomentations to perinæum.

"*Oct. 28th.* Dr. Randolph sounded the patient in my presence. The stone was readily detected at the neck of the bladder, and communicates to the instrument the feel of a soft calculus. After sounding, a little sand passed, and the patient had a well marked chill. The chill recurred upon the evening of the succeeding day, after which he was very comfortable until the day of the operation.

"On the 2nd of November, Dr. Randolph, in the presence of his colleagues, a very large assemblage of physicians, students of medicine, and gentlemen, who had been attracted by the novelty and extreme interest of the case, introduced the *brise-pierre articulé* of M. Jacobson into his bladder, seized and crushed the stone three several times. During the movements of the operator the patient did not exhibit any evidence of pain, and in reply to an inquiry relative to his sufferings, answered that he felt no inconvenience or unpleasant sensation. He walked from the operating theatre to an adjoining chamber, and about an hour afterwards made use of a warm bath. He expressed great relief from distress and pain, had no chill or fever, and passed his water but once during the night. On the following morning a large quantity of sand and a fragment of some size passed out, and during the day three or four distinct fragments of considerable size passed through the urethra, without pain or inconvenience. The patient, in fact, was unconscious of their passage.

"*Nov. 5th.* Some difficulty of passing urine arose from a collection of mucus and sand at the neck of the bladder, giving rise to some degree of pain. A chill followed the passage of the agglutinated mass.

"Since that time he has had no pain or other unpleasant symptom. Appetite excellent; takes exercise in the open air, and is fast regaining strength.

"*Nov. 10th.* Dr. Randolph sounded the patient with the instrument of M. Jacobson, and detected a small fragment, which he immediately broke, and it passed out in the afternoon. Dr. R. expressed the opinion that it would have passed out in a day or two without assistance.

"Discharged, November 16th, 1836, perfectly cured of every symptom of stone.

"Upon the third day after the first operation a small piece of wax, about the size of an ordinary buck-shot, passed from the bladder, being evidently the nucleus of the stone, as the larger fragments of the stone which had been passed corresponded to and closely fitted upon its surfaces. The patient could in no manner account for this singular occurrence, having never had any other instrument introduced into his urethra than a metallic sound.

"I believe no case has ever been recorded in which this usually protracted and painful disease was relieved so fully and unequivocally in a shorter time, but fourteen days having elapsed from the performance of the first operation to the discharge of this patient. Letters from him of a recent date entirely confirm his complete restoration to health and usefulness.

"Case XV.—The subject of this case is a member of the medical profession, from a sister state; and the existence of disease of the bladder being of long standing, the account of the patient, Dr. Silas Tompkins, of New Bedford, Massachusetts, has been prefixed to the history of the operation, as detailed by himself upon entering the hospital.

'In July of 1832, (he says,) I suffered from an attack of paraplegia, commencing with a sensation of numbness in the left heel, and a partial loss of power over the bladder, so that I was obliged to make an effort of from half a minute to a minute before I could command its action. This state did not continue long without an increase of unfavourable symptoms; the sensation of numbness extended up to the knee, and in the course of two or three weeks my gait became clumsy and staggering. I soon lost the power of retaining or expelling my fæces, and was obliged to have constant recourse to the catheter to evacuate the bladder.

'I continued to walk, or rather hobble about, until September, when I lost all power of motion, and nearly all sensation below the sternum. About the 1st of November a fistula in ano was formed, which discharged copiously and reduced me very much, so that I kept my bed for eight months.

'In June, 1833, I so far regained my health as to retain urine for six or eight hours, and had a moderate command of the rectum.

'In the summer and autumn of 1834, however, it became necessary to introduce a catheter four or five times in the course of a single night, and it was about this time that blood was first observed to follow a discharge of urine, particularly after exercise in a carriage.

'The first attack of acute cystitis occurred in June, 1835. Great pain in the region of the bladder, along the course of the urethra; strangury, hemorrhage, &c., accompanied by a good deal of sympathetic fever, since which my bladder has never been free from disease, very irritable, sometimes but 20 or 30 minutes elapsing without an involuntary discharge; urine constantly morbid, containing large quantities of mucus, occasionally mixed with blood. Since this period the catheter has been constantly employed; and although but little retentive power remains, there is a slight expulsive power left.

'In the autumn of 1836 I was satisfied, after repeated attempts to detect the presence of stone with a sound, of the existence of a calculus of some size in my bladder, and immediately resolved to submit to lithotripsy; and accordingly wrote to Dr. Randolph in relation to my case, who advised my visiting Philadelphia and entering the Pennsylvania Hospital.'

"Such was the brief history given by this gentleman on the 13th of December, 1836, when he first came under my notice as a patient in this institution.

"Doctor Tompkins was sounded by Dr. Randolph on the 15th, and the stone readily found; it appeared to be very large, apparently nearly filling up the bladder. The bladder itself appeared very much thickened and irregular, diminished in size, and communicating to the sound a cellular arrangement, as if bands had been thrown across it, or subdivisions of its cavity had taken place. Upon being irritated it contracted spasmodically, with so much force that it was impossible to turn an instrument in it.

"The patient, it will be remembered, at this time had very little control over the passage of the urine; it generally passed involuntarily, notwithstanding which, however, it was discharged with considerable force, and from this circumstance Dr. R. was induced to hope that the fragments of stone would be passed without much difficulty.

"On the 21st of December, Dr. Randolph commenced the operation in the presence of a large assembly of professional and other gentlemen, by introducing the *brise-pierre* into the bladder, and without much difficulty caught and broke the stone twice. After this he was unable to seize the stone, owing, in a great measure, to the violent contraction of the bladder, rendering it almost impossible to expand the blades of the instrument. The patient bore the operation remarkably well, probably owing to the sensibility of the bladder being somewhat diminished. A few hours after the operation he had a chill, followed by fever, which passed off during the night by perspiration. The several succeeding days, calculous matter, about the same in quantity as usually follows the first operation under similar circumstances, was discharged with the urine. The stone was soft and evidently a phosphate of lime.

"On the 28th of December the operation was repeated with success, the stone twice broken, and subsequently a great deal of calculous matter with fragments of considerable size have been voided. No chill or other unpleasant symptom followed this operation.

"*January 2nd.* The operation was again performed, and upon this occasion a different form of the *brise-pierre* used. The stone was

readily caught and very satisfactorily crushed twice. No disagreeable effects supervened after this, the third operation upon the stone.

"*January* 11*th.* The stone was on this day twice caught and broken, and large fragments passed off for several days subsequently.

"*January* 16*th.* The instrument was introduced to-day and the same successful results followed. The stone is evidently much reduced in size. Large quantities of sand and smaller fragments were passed immediately after the operation.

"*January* 25*th.* The instrument having been introduced, four or five distinct fragments of calculus of some size, were caught and thoroughly crushed, a large quantity of calculous matter was extracted between the blades of the instrument, and the patient passed a much larger quantity of stone after this than after either of the former operations; some hemorrhage took place afterwards, but it soon ceased.

"*February* 12*th.* Upon sounding the patient this morning, two or three fragments were discovered at the neck of the bladder, which seemed to lie in cells, or dilated pouches; one of them indeed, a day or two previous, had passed into the urethra an inch or more in advance of the membranous portion, and gave rise to some irritation and a chill. An effort was made to extract it, but it was found to be so large in size, as to create apprehension lest an attempt to remove it would excite too much irritation, and it was therefore returned to the bladder. Two large fragments were then crushed without the slightest pain or inconvenience to the patient, and a large quantity of fine sand with six or seven fragments of large size passed during the following forty-eight hours.

"The operation was continued on the 23d and 27th of February, with similar favourable results.

"On the 9th of March, Dr. Randolph sounded the patient and could find but one small fragment remaining, which he was of opinion would have readily passed had not a little swelling taken place at the mouth of the urethra, thereby somewhat contracting its calibre. This fragment was therefore broken, and it passed off immediately after the operation. Although this operation did not occupy more than a minute, it occasioned a great deal of pain and some hemorrhage. The patient remarked after the operation, that his urethra had been unusually tender previous to the introduction of the instrument.

"A few days subsequent to this operation, a fragment of calculus made its appearance in the urethra, and Dr. Tompkins being very anxious to get rid of it, very imprudently passed a sound curved at its point, behind it, and in his efforts to draw it forward, pushed it through the urethra into the substance of the corpus cavernosum. In

this situation it gave rise to a great deal of swelling and irritation; finally exciting inflammation and suppuration, and requiring to be extracted externally, through an opening made into the abscess by a lancet. A swelling of the testicles, it should also be stated, took place, followed by inflammation and suppuration of the cellular texture of the scrotum. For the relief of this, free incisions were made into the scrotum, through which a large quantity of matter was discharged, the swelling gradually subsided and the Doctor entirely recovered from all these occurrences previous to his leaving the Hospital, which he did about the first of May, perfectly free from every symptom of stone, and able to retain his urine four or five hours without inconvenience. Dr. Tompkins returned home and published an account of his case in the Boston Medical and Surgical Journal, in which he states the fragments "were expelled very readily, till by imprudently attempting to extract some large pieces, I wounded the urethra, producing stricture for a time, which prevented any large fragments from passing out; otherwise I should have been cured much sooner."

Case XVI.—*Reported by* H. M'Murtrie, M. D. "The first time I was summoned by Mr. Wm. Y. Birch to see him professionally was in 1829. It was at night; his complaint diarrhœa, which yielded in a day or two to the usual remedies. In five or six weeks similar symptoms occurred, and he continued in this way till 1831, complaining of nothing but the singular and apparently periodical loose state of his bowels. About this time the intervals became shorter, so that not a week elapsed but he had an attack; and in the course of a few months scarcely a night passed that he was not compelled to rise five or six times in the course of the night. In this way did the disease continue to harass and debilitate him, with occasional but short intervals of relief, until his death, in spite of the various plans of treatment successively adopted by myself and others. In 1831 he began to exhibit symptoms of dysuria, trifling at first, but soon increasing in frequency. Here, as in the diarrhœa, all attempts to effect a cure were in vain; and, by the commencement of 1832, I had made up my mind that these new symptoms originated from the combined effects of a relaxed state of the sphincter of the bladder and an enlargement of the middle lobe of the prostate. It was about this time that, on his return from a ride into the country with a friend in his carriage, he passed a quantity of bloody urine, which alarmed him excessively, and induced me to suspect there might be a stone in his bladder. Still there was *no pain.* I closely and repeatedly questioned him on this point; all that he complained of was a *sensation,* as he described it, in the glans penis. An eminent surgeon of this city was now applied to, who

sounded him with great care twice, at an interval of several days. *No stone could be found.* Convinced by this that my former opinion was correct, and taking into consideration the age of the patient, at that period 68, I confined my views of treatment to a palliative course, prescribing for symptoms as they arose, and endeavouring to keep up his general health.

"In this state matters continued with but little variation till April, 1836, when he had a chill, followed by high fever, and which for several days threatened to terminate fatally.

"In the beginning of April, 1837, at his request, I had a consultation with Dr. Randolph on his case, at which it was agreed that he should be sounded again by that gentleman. This was done on the 13th, and to my great surprise the instrument struck directly against a calculus, which, from the ring it sent forth, was judged to be a hard one and of tolerable size. The operation of lithotripsy was of course determined on, and accordingly, on the

"17*th April*, Dr. Randolph, in presence of Dr. Kirkbride, myself, and a pupil of the operator, introduced the *brise-pierre articulé* of M. Jacobson without the slightest difficulty, (the bladder of the patient being not very irritable and his urethra large,) seized the stone, and broke it four times. The patient complained but very little, and certainly experienced but very little pain. No constitutional disturbance ensued; fragments of the stone, of a red colour, apparently formed of uric acid, came away during the next three days, without any pain, and, in fact, without the knowledge of the patient.

"24*th*. Dr. Randolph repeated the operation in my presence, and with similar success; caught the stone and crushed it four times. No constitutional disturbance ensued; and the patient, on rising from his bed, observed *with a laugh*, "it was all very fine, but he would be very glad to get rid of us." He suffered *no pain at all* from this operation. Calculous matter, as before, came away during the next three days.

"29*th*. The operation continued by Dr. Randolph in my presence; the instrument caught the stone without difficulty and crushed it. On this occasion the bladder was much more irritable than at any preceding period, contracting firmly on the *brise-pierre*, so that the stone was crushed but twice. Several large fragments of the calculus, accompanied by smaller ones, came away in a few hours. In the afternoon the patient had a chill, followed by fever. Ten grains of Dover's powder produced a free perspiration in the course of an hour; the fever left him, and he passed on the whole a comfortable night.

"*May 7th*. The *brise-pierre* again introduced by Dr. Randolph in

my presence. The stone caught and crushed with the greatest facility; fragments passed for the next two or three days.

"*May* 14*th*. Operation repeated by Dr. Randolph, very successfully; the stone caught and crushed four times in two or three minutes. No apparent suffering on the part of the patient. Fragments pass as usual. The outer portions or surface of the stone *as smooth as if glazed.*

"*May* 21*st*. Operation continued successfully; stone caught at once and crushed four times. No pain complained of by the patient. Fragments pass away as usual.

"*May* 25*th*. About midnight Mr. Birch was seized with a spasmodic affection of the throat, accompanied with considerable difficulty of breathing and total inability to expectorate. By daylight the remedies I exhibited partially relieved him, and he expectorated freely. He however complained of great weakness, and observed he must have had "an attack of *grippe.*" There being no fever or uneasiness in the bladder mild tonics and nourishing diet, frequently repeated, were prescribed. The debility, however, increasing, Dr. Jackson was called, in consultation with Dr. Randolph and myself. A minute and careful examination of the case by Dr. Jackson eventuated in his coinciding with Dr. R. and myself in the opinion, that Mr. Birch's condition was not in the least dependent upon the operation of lithotripsy that had been performed upon him; Mr. Birch himself repeatedly declaring that he had no uneasiness or pain in the bladder, and that he felt satisfied he should soon be rid of the stone altogether. From this moment, in spite of the united efforts of his physicians, he gradually sunk; the power of deglutition became impaired, and on the 2nd of June, 1837, at 7 o'clock in the morning, he expired without a struggle—the only one of his family, so far as he can recollect, that had ever attained an equal age with himself, 73 years; his father, as I have often heard him say, dying of *old age,* many years his junior."

I subjoin to this statement a letter which I received from my friend Dr. Samuel Jackson, in relation to this case; and also an account of the autopsy, drawn up by my friend Dr. J. Pancoast.

My dear Doctor:—It may be satisfactory to you to have from me a statement of the last illness of your patient, Mr. Wm. Y. Birch, whom you relieved of a urinary calculus by the operation of lithotripsy.

On the 26th of May Dr. M'Murtrie requested me to visit Mr. Birch, in consultation with you and himself. The Doctor mentioned that Mr. Birch had been attacked suddenly in the night with cough and difficulty of breathing, and that my attendance was desired in consequence of the appearance of this new train of symptoms.

At my visit the patient was found very much depressed in his spirits. He expressed himself despondingly, and was impressed with a belief he should not recover. His pulse was feeble; he complained of a sore throat, had great difficulty in swallowing, had a harassing cough, with a viscid, tough expectoration. He had no difficulty with the urinary apparatus; the urine was retained for hours without pain or uneasiness, and voided with the greatest ease. It was evident he was labouring under an attack of acute catarrh or influenza.

It is not necessary to detail the course of the symptoms. It will be sufficient to state that until the close, which took place on the night of June 1st, they varied only in degree. They were confined exclusively to the respiratory, digestive, and circulatory apparatus. No complaint was made or difficulty occurred in the performance of the function of urination.

I may add further, that Mr. B.'s constitution had been enfeebled by a chronic diarrhœa of some years standing. He consulted me respecting it about four years since. With respect, yours truly,

Philadelphia, Aug. 17, 1837. SAMUEL JACKSON.

Dear Sir:—I transmit you an account of the autopsy of Mr. Birch, which, from the hurry of the occasion, I was not able to carry farther than into the condition of the pelvic and abdominal viscera. The subject was very obese, and presented, on opening the abdomen, a small omental umbilical hernia, which was not strangulated or inflamed.

The stomach healthy, with some little redness of the mucous membrane. Liver, pancreas, spleen, and small intestines, generally healthy. The colon presented a considerable hypertrophy of all its coats except the outer. A great number of small sacs or pouches were found throughout its whole extent, but most abundantly on the side of the mesocolon; 65 of these could be counted on a foot of intestine taken from the middle of the transverse portion of the colon, and 43 on an equal extent taken from the sigmoid flexure, the smallest of which received the end of the handle of the scalpel, and the largest the end of the forefinger. The pouches were of various lengths, from a few lines to near an inch, and about one-fourth narrower at their orifice in the intestine than at their free extremity. They appeared to be enlarged follicles, which in their developement had made a sort of hernial protrusion between the circular muscular fibres. These fibres could be traced around the margins of the orifices, and gave to the touch the sensation of a ring. The mucous membrane of many of the larger pouches was much thickened, softened, and of a very dark slate colour. The colon contained a moderate quantity of rather

solid fæces; plugs of which, of still greater density, were found sticking into almost all of the pouches above described. These completely filled the pouches, and projected obliquely upwards, from a half to three-quarters of an inch into the cavity of the intestine. The largest of these plugs, when drawn out, resembled in shape and size the first phalanx of the thumb, the rounded end buried in the pouches, and of the same dark hue as its mucous membrane. These pouches were largest and most numerous, and the plugs the most solid, in the transverse and sigmoid portions of the colon. In each of these portions, for the extent of $2\frac{1}{2}$ or 3 inches, the mucous membrane was perfectly dry, of a polished appearance, and much injected. The membrane elsewhere was healthy, except near the cœcum, where it was softened and slate coloured in patches. The rectum was healthy. The bladder contained a few ounces of slightly turbid urine, and was hypertrophied in all its coats to nearly twice their natural thickness.

The mucous membrane presented no other change, except at the lower half of the bladder, where it was of a dark slate colour, though of firm consistence, with a spot the size of a quarter dollar in the centre of the *bas fond*, where it was slightly red and injected—appearances apparently produced by four or five small fragments of stone which rested upon it. The slate colour terminated by an abrupt line at the base of the prostate gland. The bladder exhibited no evidence of recent injury, and none but the usual appearances resulting from the chronic irritation produced by stone. The middle lobe of the prostate was of its natural size; the two lateral lobes enlarged to $2\frac{1}{2}$ times their natural dimensions. Urethra healthy. Both kidneys somewhat hyperemic and soft; the capsular coat stripped off much more readily than usual, as though the organs had been macerated. On the back part of each kidney, below the capsular coat, was found, half imbedded in the substance of the organs, a transparent cyst of serum or hydatid, holding about two ounces. The two cysts were exactly similar in appearance and position. In the right kidney were three others, of the size of marbles. The mucous membranes of the pelvis and ureter of each kidney seemed healthy. Yours, very sincerely,

Philadelphia, June 6, 1837. J. Pancoast.

Case XVII.—*May* 7, 1837, I commenced the operation of lithotripsy on Mr. R. H., of Philadelphia, merchant, aged 27 years. Mr. H. had been afflicted with the complaint for about six months. For several years previous he had been in the habit of occasionally passing calculous matter along with his urine. During this period he was attacked with a stricture in his urethra, and to this cause in all proba-

bility may be attributed the lodgment of the stone in the bladder. Having dilated the urethra to its ordinary size, on the date mentioned, I introduced the *brise-pierre* into his bladder, in the presence of my brother, Dr. Charles Randolph, and caught the stone immediately and crushed it, without the slightest difficulty. Upon withdrawing the instrument, I ascertained that the stone was of a whitish colour and quite soft, having the appearance of a magnesian phosphate. The patient suffered so little pain from this operation, that I had caught the calculus and crushed it before he was aware that the instrument was introduced into his bladder. Soon after the operation he voided a considerable quantity of calculous matter.

May 14*th*. I repeated the operation, caught the stone four times and crushed it without any difficulty. This operation did not cause the least constitutional disturbance; soon after its performance he discharged the usual quantity of calculous matter. A few days subsequently to this operation, Mr. H. informed me that he could void his urine without any pain or difficulty; he was also able to retain it for several hours longer than he could do previous to the operation. I now examined the bladder with the greatest care on several different occasions, but could not detect any calculus remaining in it.

This patient, it will be perceived, was cured in the space of one week by two operations with the *brise-pierre*, without suffering the least inconvenience or constitutional irritation.

Before concluding this paper it may not be amiss to notice the accident met with by Mr. Roux, recorded in the last number of this Journal, p. 515. This surgeon, in attempting to extract a large fragment of calculus through the urethra by means of the *brise-pierre*, (it is not mentioned whose *brise-pierre*,) the instrument became so fixed in the urethra that it could not be moved either backwards or forwards, and it became necessary to make an incision into the urethra and extract the fragment through this opening before the instrument could be withdrawn. This accident cannot be at all urged as an objection to lithotripsy, inasmuch as the attempt to extract the fragment in this manner was entirely gratuitous on the part of Mr. Roux. We are free to confess that we have often felt tempted to extract fragments of a certain size by means of the instrument, under similar circumstances, with the view of expediting the cure. Such attempts, however, cannot be too strongly reprehended; not only on account of the danger which is thereby incurred, but inasmuch also as a portion of the stone so circumstanced may be crushed by merely closing the instrument, after which the fragments will readily be discharged.

Philadelphia, August 25, 1837.

ART. II. *Report of Cases of Lithotripsy.* By N. R. SMITH, late Professor of Surgery in the University of Maryland.

CASE I.—Charles Elliott, a lad seven years of age, was brought to town by his parents, August 10, 1835, for the purpose of consulting me in regard to stone, under which he was supposed to labour.

On sounding, the calculus was instantly struck, and, as far as I could determine by taking its dimensions with the sound, and with the finger per anum, it was of the size of an ordinary hickory-nut. He had laboured under symptoms of disorder in the urinary passages from birth, but I could not determine from the history of the case at what period the calculus had traversed the ureter and entered the bladder. The child had a sickly aspect, and, besides the severe paroxysms of stone under which he frequently laboured, and the ordinary constitutional irritation consequent thereupon, he occasionally suffered from severe gastric and intestinal irritation.

He could not endure, without much suffering, the motion of a carriage; and in walking he always moved with the cautious and gentle pace so common to those who suffer from stone in an irritable bladder. The urine evacuated was often surcharged with mucus. Sounding for the stone created more sensation than common.

Having provided myself with the admirable apparatus of Jacobson, (*brise-pierre*, or *lithotripteur*,) I resolved to attempt the comminution of this calculus after the method of that surgeon. Accordingly, having premised treatment designed to improve his general condition and to allay the irritability of the bladder, I introduced the lithotripteur first on the 15th of August. The instrument was of a size corresponding to the age of the patient, and had the diameter nearly of a line and a half. It entered with perfect facility, although I had made no preparatory dilatation of the urethra with bougies.* The urine had been directed to be retained as long as possible before the operation, but on the introduction of the instrument some portion of it escaped between it and the urethra.

* The urethræ of patients labouring under calculus are almost always found preternaturally large, especially in children, and to admit with ease instruments of large size. This is probably owing to the efforts which they often make to resist the escape of urine and avoid the pain consequent upon it, by strongly grasping the penis. The urine urged forward into the urethra by the convulsive throes of the bladder, has the effect of forced injections in strongly distending it. Patients, as is stated by Amussat, sometimes partially relieve themselves of stricture by practising a similar expedient—resisting the escape of urine from the orifice till the canal is strongly distended.

After a moment's delay, to allow the spasm of the bladder to cease, I expanded the instrument, (this causing some pain and provoking renewed action in the bladder,) and endeavoured to include the calculus. This I repeated, in a cautious and gentle manner, several times, each time varying the attitude of the instrument as the touch suggested. I failed, however, to grapple with the calculus; and fearful of creating serious irritation of the bladder, I withdrew the *lithotripteur*, and deferred my efforts to another occasion.

On the 18th, the bladder not having suffered from the previous attempt, I renewed my endeavours with the same ill success. Believing that there is but little danger of seriously injuring the bladder by seizing its folds with Jacobson's instrument, I resolved on the next occasion to operate on the *empty* organ; and accordingly, on the 25th, when I next saw him, I drew off the urine as a preliminary step. I then introduced the *lithotripteur*, and after, as before, suffering it to rest for a moment in the bladder, I gently expanded it. I now again desisted from my efforts till the bladder should cease spasmodically to grasp the instrument. After the lapse of a minute, I gently moved the instrument from side to side, in order to facilitate the entrance of the calculus within the loop. Feeling the calculus distinctly, I gently closed the instrument, and had the satisfaction of perceiving the resistance of the calculus, and being assured that I had seized it in a most favourable manner. From the degree in which the instrument was expanded, I learned that the stone was about three-fourths of an inch in diameter. Bringing the levers of the *brise-pierre* into action, the fracture of the calculus was distinctly heard as it yielded at intervals to the power applied. The fragments being expelled from the instrument by its closure, I again expanded it, and with equal ease seized one or more fragments and crushed them. This I repeated two or three times, but as the bladder was very sensitive, I deemed it imprudent to persist at that time in my attempts; I therefore closed the instrument and withdrew it. In being withdrawn there occurred some resistance to the passage of the instrument, and it appeared to scrape the urethra as if rough. This I ascribed to the inclusion of some portions of the calculus within the links of the instrument, rendering it larger than when introduced, although closed as forcibly as was prudent. This was confirmed by the appearance of the instrument on its being withdrawn, for it was clogged with the moist debris of the calculus, the particles of which presented a rough surface, projecting a little from the interstices of the instrument on both sides. These particles scratched the urethra, and caused a few drops of blood to follow the withdrawal of the instrument. They

were so strongly adherent to the jaws of the instrument that they required to be scraped away with a knife; and the instrument, I am satisfied, could not well have been disengaged from them by opening and shutting it in the urine of the bladder, as I endeavoured to do.

It is not easy to determine what was the amount of pain caused by the use of the instrument on this occasion, since we cannot expect an operation of this kind to be endured by a child of seven years without much complaint. The sight of the instruments alone, and the dread of the operation, would necessarily have caused screams and struggles. Of this I am confident, however, that no violence was done to the parts, and that very little more pain could have been occasioned than ordinarily results from the process of sounding for stone.

On visiting my patient the next day, I found that a considerable portion of the pulverulent debris of the calculus had been discharged with the urine, and that there had also been discharged several fragments, of a line or more in diameter; so angular and large, indeed, as to linger a little in their passage, and to cause some degree of irritation. Very little constitutional disturbance had arisen, and the tenderness of the bladder was not greater than it had often before been; though it was such as to render the patient unwilling to use much motion. I found it necessary to prescribe a gentle aperient, fomentations to the belly and mucilaginous ptisans.

I did not repeat the operation till the end of four days, when I again drew off the water as a preliminary step, and employed the lithotripteur precisely as before, and with equal ease and success. I seized in succession several considerable fragments, and effected their comminution without difficulty. I was aided on this occasion by my pupils, and by my friend Dr. Cockey. There was about the same degree of suffering as on the former occasion, and no more disorder of the general health from the operation. Fragments of larger size, however, traversed the urethra; and two or three of these, on the first day after the operation, lodged in the navicular fossa, near the orifice of the urethra, and caused partial retention of urine, with much suffering. These I dislodged with the common dressing forceps without much difficulty, but I think the pain occasioned by their removal was as great as that caused by the use of the *lithotripteur*.

On the third or fourth day from this, aided by Dr. Cockey and the pupils of the Infirmary, I again repeated the operation in precisely the same mode as before, and with very similar results, except that no fragments lodged in the urethra, and he was able to exercise a little. I continued thus to repeat till I had used the instrument with effect seven times, and brought away, as I supposed, more than half

of the calculus. At the end of this time my patient began to suffer much from that form of gastro-intestinal irritation so common in our cities among children during this season of the year, and I was forced to abandon the continuance of my efforts for several weeks, entertaining the hope at the time, however, that I had sufficiently comminuted the fragments to facilitate the escape of the whole.

After some improvement of the general health of the lad, by the employment of suitable means, I again introduced the *brise-pierre*, October 20th, and having caught fragments of the calculus, with facility effected their fracture. After this attempt several fragments traversed the urethra and lodged in the fossa navicularis, causing an almost complete suppression of urine and severe suffering to the patient. I had no small difficulty in effecting their removal, sometimes procuring their dislodgment with the bent probe, but most generally succeeding best with small urethra forceps.

I now continued to repeat the operation, at intervals of four or five days, until I had introduced the instrument in all fourteen times. I was assisted on one occasion by my distinguished friend, Professor Geddings, and by Dr. Wells, of South Carolina. On another occasion, by Professor Warner, of the University of Virginia. This being the first case of lithotripsy which had been attempted in Baltimore, many other of my medical friends witnessed, at different times, the successive repetitions of the operation.

At length the symptoms indicating the presence of foreign matter in the bladder ceased, and on carefully exploring the organ, both empty and full, I satisfied myself that nothing remained. I caused the patient to remain, however, several weeks in the city, but no unpleasant symptoms recurring, I then dismissed him. I have repeatedly heard from him up to within a few weeks of the present time, and learn that he remains perfectly well.

I should remark that in this case, although the use of the instrument was certainly not unattended with pain or terror to the patient, yet there was at no time such mechanical injury inflicted upon the bladder as to give rise to any serious degree of inflammation, or even the patient to be for one day confined to his bed. Several times he was called out of school for the purpose of being subjected to the operation, and more than once returned to his task without complaint. It is true a few drops of blood sometimes followed the instrument, and there occasionally resulted some degree of ardor urinæ.

Case II.—*October 20th*, 1835, my friend Dr. Kinnemon, an intelligent young physician of Old Town, took me to see the infant child of a poor woman living in his neighbourhood, aged two years and

eight months, supposed to be affected with stone. The child had laboured under the ordinary symptoms from birth, but, within a few weeks past, they had been very urgent; the severe local irritation not only creating much suffering, but giving rise occasionally to much constitutional disturbance. I immediately explored the bladder with a small sound, and at once struck the calculus, which I ascertained to be small. There was not much evidence of morbid change in the mucous coat of the bladder; the urine was generally clear, though occasionally charged with sabulous particles, and there was not much mucus evacuated. I immediately pronounced the case favourable for lithotripsy, and an early day was fixed for the operation. In the meantime the bowels were kept soluble, and the child was confined to a simple diet.

Oct. 23*d.* With the aid of Drs. Kinnemon and Leonard, I placed the child upon his back, on a table cushioned with folded blankets; and causing the thighs to be held in the attitude common in lithotomy, I introduced the *brise-pierre*, (a very small one, constructed for infants,) without difficulty. But I found it by no means easy to seize the calculus securely, in consequence of its small size and its smoothness. Several efforts to seize it having failed, I desisted for that time, lest I should inflict injury. A few drops of blood flowed on removing the instrument, but no serious irritation resulted.

Oct. 27*th.* I again introduced the instrument, and happily grasped the calculus at the first effort, and easily effected its fracture. Expanding the instrument, I seized and broke a considerable fragment, and comminuted one or two others of smaller size. I should have remarked that the expansion of the instrument, when I first seized the stone, indicated it to be about three lines in diameter.

On visiting the patient next day, I found that not much irritation had arisen, and that some fine debris and two or three considerable fragments had been evacuated. I repeated the operation on the 30th, in presence of Dr. Monkur, Dr. Cockey, Dr. Diffenderffer, and other gentlemen, but not promptly succeeding in securing the smooth nucleus which remained, I desisted.

Nov. 8*th.* I repeated the manipulation and seized and broke two or three fragments. On the second day after this, the nucleus, of the size of a pea, traversed the urethra and lodged itself behind the glans, occasioning complete suppression, and causing much distress. Dr. Monkur, whose residence was in the vicinity, was called in, and he promptly effected its removal. Although the urinary passages were still the seat of some irritation for a few days, yet soon all symptoms of calculus in the bladder disappeared. I twice explored the bladder

with sounds, and found it free from any foreign substance. Up to the present date the child has remained perfectly well.

Case III.—My friend Dr. Whitridge, of Old Town, called me to see an infant child of Mr. Fouse, of Exeter street, October 25, 1835. The little patient had suffered symptoms of calculus from birth; his age was one year and ten months. I introduced a small catheter and immediately struck the calculus, which I judged to be small. The next day, assisted by Dr. Whitridge, I introduced an exceedingly small *brise-pierre* and sought the stone; but it eluded my efforts, and for the time I desisted.

Nov. 3d. Assisted by Drs. Whitridge and Cockey, I again introduced the instrument and included the calculus with but little difficulty. Its fracture was distinctly heard as the instrument closed upon it; and when it was withdrawn, a considerable portion of a small calculus was found entangled in the instrument. The debris of the stone continued to pass for several days.

Nov. 9th. I repeated the operation with similar success, and two or three days after the nucleus, of the size of a duck-shot, was discharged. I introduced the *brise-pierre* once more, but found nothing, and in a few days all irritation of the organs concerned disappeared, and the child has since remained, to this date, free from any evidence of lithiasis.

Case IV.—*December 25th*, 1835, I saw Charles O'Connell, aged 17 years, living with his father in Long Alley, Baltimore, on account of symptoms indicative of calculus in the bladder. I sounded, and immediately struck what I judged to be a large and dense calculus, being free in the bas-fond of the bladder. He had suffered symptoms of its presence from an early age. The bladder was evidently the seat of a considerable degree of irritation, being impatient of its contents, tender on pressure upon the pubis, and occasionally discharging mucus, and at times a little blood. Although a degree of sympathetic gastric disturbance occasionally occurred, his general health was not greatly disordered.

From the ease with which the sound passed I deemed it unnecessary to effect any preliminary dilatation of the urethra. I however subjected him to the ordinary preparatory treatment, and relieved in a degree the irritation of the bladder.

Jan. 1st, 1836. I placed the patient on a firm table, covered with folded blankets; his head supported by a pillow, his legs firmly held by assistants in the attitude usual in lithotomy, and his nates projecting over the margin of the table. I introduced with ease a *brise-pierre* of large size, and at once struck the calculus. After the lapse of a

moment, to allow the spasm of the bladder to cease, I expanded the instrument and endeavoured to include the stone; but though I felt it distinctly, and varied the attitude of the instrument with care, I could not succeed in engaging it; and fearful of creating too much irritation, abandoned the attempt for that time.

Jan. 5th. I again introduced the instrument, and with precisely the same result. I now became convinced that the expansion of my *brise-pierre* was not sufficient to include a calculus of so large a size.

Jan. 10th. Having provided myself with a *brise-pierre* of sufficient size to grasp a calculus an inch and a quarter in diameter, I introduced it as before, (first having emptied the bladder,) and seized the calculus at the first effort. It was evidently very large, nearly filling the loop of the instrument. Its fracture was very audible as the instrument closed upon it; and from the manner in which it continued to be crushed till the instrument nearly closed, it was obvious that I had seized it in a most favourable manner. I seized and broke several fragments in succession, and, on withdrawing the *brise-pierre*, found it to include a portion of the stone, finely comminuted. For three days the debris of the calculus (its crust being composed of the phosphatic salts) continued to be freely discharged; some of the fragments, as in the former cases, lingering for a time in the urethra, and occasioning more or less irritation.

Jan. 15th. I repeated the operation with effect, and fragments of the calculus were freely discharged. I continued from this time to repeat the operation every third or fourth day, until I had used the instrument thirteen times. Believing that I now felt in the bladder nothing but small fragments, which I flattered myself would be soon discharged, I discontinued my attendance for several weeks. On visiting him after this interval, I found him still conscious of some irritation in the bladder, and of the presence of some mechanical impediment to the free flow of urine. I again introduced the *brise-pierre*, and caught a considerable fragment at the first effort and crushed it. I also either broke portions of this or other pieces. On withdrawing the instrument I directed him to urinate, when four or five fragments were expelled from the bladder with force. These proved to be all that remained, as I never after was able to detect any thing in the bladder, and from that time all the symptoms ceased. He remains perfectly well to the present day.

This operation was witnessed by Dr. Dunan, Dr. O'Donovan, Dr. Baker, Dr. Dunbar, Dr. Cockey, and several other medical friends. On most occasions the patient appeared not to suffer severely from the operation. Usually he aided in the preparation necessary; and

when the operation was completed he went for water, &c., and assisted in washing the instruments. He was at no time confined to his bed a single day in consequence of the operation, nor was there ever any evidence of serious inflammation of the bladder.

Case V.—*November 20th*, 1835, I visited B. Howard, Esq., of Baltimore county, a highly respectable gentleman, living about twenty miles from Baltimore, who was supposed to labour under calculus of the bladder. Mr. Howard was about 65 years of age, of exceedingly delicate general health, having laboured under inveterate dyspepsia for many years. His digestion was so capricious that he could take nothing but the simplest articles of aliment, and those in small quantity; he was emaciated and feeble. The bladder was exceedingly sensitive and impatient of its contents. The urine was often charged with mucus and sabulous matter. There was a remarkable sense of weakness in the loins, and tenderness on pressure in the region of the kidnies. Mr. Howard had had a severe paroxysm of nephritic irritation about nine months anterior to the present date, and undoubtedly at that time the calculus had passed from the kidney to the bladder, as ever after that period the symptoms of stone in the bladder were manifest. He had had, however, several severe attacks of nephritic irritation after the stone had entered the bladder, and occasionally had passed calculi of small size. These paroxysms of kidney disease had on some occasions well nigh proved fatal.

On sounding, I found a small calculus in the bladder; conjecturing that it might be of the size of a small chesnut. The introduction of the sound caused a good deal of pain. I regarded this case as being more unfavourable than most that I had encountered, either for lithotripsy or lithotomy; but as the calculus was so very small that I might hope to effect its removal at one, two, or three sittings, I came to the conclusion that lithotripsy was as applicable to the case as lithotomy. The latter operation was, moreover, entirely out of the question, as the patient would not hear it named. Mr. H. had been under the care of his son-in-law, Dr. Gittings, and that of his son, Dr. Howard, very intelligent medical gentlemen, and by their judicious management was as well prepared for the operation as I could expect him to be, and I therefore at once introduced the *brise-pierre*, first having drawn off the water. I did not seize the calculus till I had varied his position and the altitude of the instrument three or four times. I then caught and fractured it with ease, and subsequently broke two or three fragments. I then withdrew the instrument, clogged in some degree with the debris of a very red, lithic acid calculus. Although I manipulated with as great delicacy as possible, I inflicted severe

pain in this operation, and considerable irritation of the bladder resulted, accompanied with increase of constitutional disturbance. We prescribed an anodyne by the mouth, and an anodyne enema.

Nov. 25th. I again visited Mr. Howard, and found that he had passed sabulous matter and several fragments. The irritability of the bladder had abated in a degree, and I again used the instrument with very similar results.

Dec. 1st. I used the instrument for the third and last time, being then satisfied that I had thoroughly comminuted the calculus. Much suffering attended the operation, though I handled the instrument as lightly as possible. Much irritation and increase of inflammation also followed. The case was managed very judiciously in my absence by the attending physicians. The remainder of the calculus passed, and all mechanical impediment to the flow of urine ceased.

After the lapse of about ten days I again saw Mr. Howard. The irritation of the bladder had very much abated, but there had occurred a severe nephritic paroxysm, very similar in its character to those under which he had before suffered so severely. The symptoms were precisely such as indicated the passage of another calculus along the left ureter. It proved impossible to conquer them, and the patient sunk between two and three weeks after the operation.

There was at no period of the process in this case any serious mechanical lesion inflicted on the bladder, and the irritation caused by the use of the instrument had much abated before the nephritic attack came on. I cannot think, therefore, that the patient perished from the immediate effects of the operation, though it must be admitted that the operation had rendered him less able to endure a paroxysm precisely similar to such as he had before suffered. I regret that no autopsy was obtained in this case.

Case VI.—Francis Affireaux, seven years of age; the child of a grocer living in Old Town; had had symptoms of calculus from infancy. I was called to examine him by my friend Dr. Kellogg, of Old Town. We struck immediately a calculus, which proved to be of the size of a small hickory-nut. The bladder was found to be comparatively healthy; every circumstance, indeed, was favourable to lithotripsy.

April 4th. The proper preliminary treatment having been premised, I introduced the *brise-pierre* with ease, (without having previously drawn off the water,) seized the calculus at once, and effected its fracture. I seized and broke several fragments in succession before I withdrew the instrument, which, when withdrawn, was found to include a portion of the debris. The boy scarcely complained during

the operation, and the bladder suffered but very little irritation. Several fragments passed on that and the next day, some of them lingering in the urethra and causing much annoyance.

April 6th. I repeated the operation with equal ease; broke several fragments with very little pain to the lad, and withdrew the instrument when I might, without annoyance to the bladder, have continued the manipulation till I had reduced the fragments to smaller size. The truth was, I did not expect to complete the operation at two sittings. This, however, was done, for the fragments all passed after this operation, though some of them were so large as to become impacted behind the glans, and to give us a great deal of trouble. I removed several with the forceps and probe; and Dr. Kellogg, who was called to him in the night, removed as many. This was effected with a good deal of difficulty, in consequence of a tendency to phymosis which existed. More pain was suffered in these attempts than from lithotripsy, and some degree of inflammation of the penis resulted. In four days, however, all the fragments were evacuated, and on twice exploring the bladder carefully I detected nothing. He has remained perfectly well up to this date.

I am very confident that I could have effected the removal of the calculus in this case at a single introduction of the instrument, without injury to the bladder, had I persisted longer in its use on the first occasion. By so doing I also might have so reduced the fragments as to render their passage easy along the urethra, and to prevent their becoming lodged in the transit. Thus the most painful part of the process would have been obviated.

Remarks.—It will be observed in the perusal of the foregoing cases that I have generally operated on the empty bladder. Such, I am well aware, is not the practice recommended by other operators, and therefore my first attempts were not made upon the empty organ. It was only when I had failed in seizing the calculus with facility, in the bladder partially filled, that I emptied the organ before manipulating further. In some instances, however, I seized the stone in the bladder, containing urine, with ease.

There certainly does not exist the same objection to the use of Jacobson's instrument on the empty bladder that justly obtains against the employment of Civiale's, or indeed any form of the *pierce-pierre*, or of the *brise-coque* of Heurteloup; any instrument, in short, which expands branches in the bladder. The *brise-pierre* of Jacobson merely opens a loop in the bladder, and presents nothing which can possibly pierce and become entangled in the folds of that organ. A fold of the

mucous membrane may enter laterally the loop of the instrument, but never can become so engaged as to embarrass the operator. The yielding and elastic resistance which it furnishes is instantly distinguished from sudden check to the closure of the instrument caused by the stone, and nothing can be easier than for the operator to disengage the *brise-pierre* by slightly changing its position. I have several times felt a fold of the bladder within the loop, but am confident that I have never contused in any degree the included portion. Probably nothing but the mucous lining of the bladder could ever be included in the loop, as the muscular coat of the organ is never thrown into folds unless the bladder is paralysed.

Professor Gibson, in a valuable article on lithotripsy, published in a recent number of this Journal, manifests a decided preference for the *lithotripteur* of Heurteloup over the *brise-pierre* of Jacobson. After admitting many of the apparent excellencies of the latter instrument, he pronounces it a "dangerous weapon." With deference to the opinion of that distinguished surgeon, I would suggest that he has probably much overrated the perils attending its employment, as I am confident his candour will admit whenever he puts the instrument in use in a sufficient number of cases to determine its merits. He deprecates the contact of the angular joints of the instrument with the surface of the bladder, and speaks of it as "well calculated to rake and harrow the plain surface of the bladder." An incautious and rude hand may rake and harrow the surface of the bladder even with a common catheter; but so careful an operator as Professor Gibson would, I am confident, never find it necessary to inflict this injury upon the organ in endeavouring to include the calculus.

Nor have I experienced in the use of the instrument the difficulty which the same writer apprehends in fixing firmly the calculus when included. I have scarcely ever known the stone to elude the instrument, when once caught, without suffering fracture.

That the bladder is occasionally irritated by the joints at the moment that it is expanded in the bladder, and also by the movements of the instrument in searching for the calculus, is not to be denied; but this objection obtains against every apparatus employed for seizing and crushing the stone in the bladder, and is an insuperable difficulty only in those cases to which lithotripsy is not applicable, and in which lithotomy should be resorted to. Even my limited experience will justify me in assuring Professor Gibson that Jacobson's instrument is not only "admirably calculated, *apparently*, for success," but *really* so. Besides, it has been thus far much the most successful instrument as yet employed for this purpose in America. Dr.

Randolph, if I mistake not, has completely succeeded in eighteen cases of lithotripsy, and gives Jacobson's instrument a decided preference over all others. The public and the profession are largely indebted to this distinguished surgeon for the confidence beginning to be placed in this operation in our country. I have heard of no instance in which Jacobson's *brise-pierre* has inflicted fatal lesion upon the bladder, and none in which, from its being broken or bent, it has been found difficult to disengage it.

But if Jacobson's instrument has its peculiar imperfections, it is not to be denied that there are very decided objections to the *lithotripteur* of Heurteloup. The mandibles of the instrument, terminating in obtuse points, are certainly as liable to irritate the surface of the bladder as are the angles of the *brise-pierre*, and certainly they must be much more liable to seize and to hold duplicatures of the organ. Surgeons are well aware that in lithiasis the bladder is frequently in the columnar condition, the muscular coat having undergone such hypertrophy as that its fasciculi, intersecting each other in every direction, present the appearance of the fleshy columns of the heart. Between these are formed cells, into which the mucous membrane is reflected. In such a condition of the organ it is easy to conceive that the beaks of the *lithotripteur* may enter the cells, and, when closed, seize the fleshy columns of the bladder.

Should the instrument of Heurteloup be broken in the bladder, the surgeon would have no means of extracting a fragment but by cutting. Should it be in any considerable degree bent, it might become impossible to close and extract it without inflicting great violence on the parts. Indeed, I have heard of an instance in which this difficulty occurred and caused much embarrassment.

Both the instruments in question are, however, valuable, and infinitely to be preferred to the apparatus of Civiale, and both should be in the possession of the surgeon who attempts lithotripsy. He will undoubtedly meet with cases in which each will be found preferable to the other; but so far as my own experience and observation justify a conclusion, the *brise-pierre* is decidedly the preferable instrument for a majority of cases.

Queries are often rather absurdly made in regard to the comparative merits of lithotripsy and lithotomy. In regard to most cases of stone, they can be compared with no more propriety than can lithotripsy and amputation. Where the calculus is small and the bladder healthy, no one can hesitate for a moment to pronounce lithotripsy the eligible operation; indeed, in such a case lithotomy is unnecessary, cruel and perilous. But on the other hand, when the stone is very

large and the bladder irritable, it is equally manifest that lithotomy is the only operation which science and humanity can recommend. Cases will, however, occur, in which it will be difficult to decide to which operation preference is to be given.

To how large a proportion of cases lithotripsy is applicable, the experience of surgeons has not as yet determined. As the operation becomes more generally known and practised, the proportion favourable for lithotripsy will undoubtediy increase, as patients will submit to lithotripsy while the calculus is small.

Within the last two years there have occurred in my practice in the city of Baltimore, twelve cases of stone. In one half of these I have performed lithotripsy, and in the remainder lithotomy. In one of the latter I attempted lithotripsy, but was compelled to abandon it. These, I believe, are all the cases which have occurred in Baltimore in that time.

It will be observed that in two or three of the cases related, my patient suffered in no small degree from the lodgment of fragments in the urethra. I flatter myself that I shall hereafter successfully provide against this evil, by effecting a more perfect comminution of the fragments, and by a contemplated improvement in the urethra forceps employed for the extraction of foreign bodies from the urinary passage, and of which I shall give a description in some future number of this Journal.

Baltimore, August 26th, 1837.

ART. III. *An Inquiry into the Pathology and Treatment of Secondary Abscesses, and other consecutive Disorders resulting from injuries and Surgical operations.* By JOHN WATSON, M. D., of New York. (Read before the New York Medical and Surgical Association, July 29th, 1837.)

Early in the course of my professional studies I was led to reflect upon some of the results of severe operations, by a case that occurred in the New York Hospital, upon which Dr. J. Kearny Rodgers operated, and which resulted fatally, with depositions of pus in various parts of the body. Cases of a similar character, about the same period, fell under my observation; but, unable at the time to resolve the connexion between the operation and the secondary disturbance, I allowed them to pass without any special investigation.

Case I.—In the summer of 1835, a case occurred in the New York Hospital, in which purulent depositions appeared spontaneously in different parts of the body, and in a manner somewhat similar to those that follow injuries. The patient was a young seaman. He had suffered from intermittent fever, and, if I remember rightly, he had had enlargement of the liver, or, at any rate, some functional disturbance of that organ. He entered the Hospital for erysipelas of his arm, which was not connected with any known injury, and was diffuse and extensive. Matter formed in the subcutaneous cellular tissue, and undermined the integuments in various parts along the whole of the limb. Sometime after the subsidence of this disease, the patient, remaining in a cachectic condition, had a succession of abscesses on different parts of his body and limbs. In general they were large, and, although circumscribed, they arose without any induration around them, and formed without the usual symptoms that precede cellular abscess depending on local inflammation. The skin above them was not discoloured; when punctured, and the matter evacuated, they collapsed to the natural level of the surrounding integuments, and healed without any further trouble. The largest abscess was on the back; it might have contained eight or ten ounces of purulent matter. One of the knee joints became involved, and the house surgeon was of opinion that effusion had taken place in the cavity of the joint itself, but of this he was not certain. After appearing thus at successive points in the cellular tissue beneath the skin, the purulent deposition finally settled upon his lungs, and he died.

From the preceding case I was led to believe that depositions similar to those following injuries and operations, may also be consecutive to spontaneous derangements; and consequently, that the connexion between the secondary abscess and the local injury by which it is brought about is neither immediate nor essential. Still I was unable to account for the secondary affection; and, by referring to authorities, I found that it had been already the subject of considerable speculation.

According to the views of some, the secondary abscess arises from a simple transposition of matter from the seat of a primary wound, the matter being taken up by absorption, carried through the circulation, and finally deposited, without inflammatory action, at the spot in which it is afterwards discovered. Others attribute it to the influence of special sympathies between the parts first affected and those that become disordered afterwards. Others, again, attributed it to constitutional irritation. One writer would have that secondary abscesses are merely the result of local injury received at the part secondarily

diseased. Finally, by the most recent observers, they are attributed to a vitiated condition of the blood, which is itself the effect of purulent depositions, or other inflammatory exhalations, forming within the cavity of the veins and mixing with the torrent of the circulation. Let us see whether the following cases can throw any light upon this subject.

Case II.—James Hall, the patient alluded to at the commencement, having suffered for years from necrosis of the femur, underwent a protracted operation for removing the dead portions of bone, November 17th, 1831.

The opening made through the callus was about six inches long. The operation lasted two hours. The vessels of the bone were cauterized, to prevent hemorrhage; and into the orifice of one of them a small tent of sponge was inserted and left. The patient did not lose much blood, but was greatly exhausted by the operation. Just before it his pulse was 84; on the day following it was 126; and never but once afterwards fell lower than 114, except on the seventh day, when it was at 100, while he slept. Immediately after the operation his stomach became irritable; he vomited every thing he took for about three days. On the fourth day he retained a dinner of chicken broth, and appeared to improve until the eighth day. His stomach again became irritable and continued so; he was unable to retain any sort of food except taken with lime-water, or porter and lime-water.

On the 26th of November he began to complain of *soreness and tension along the right wrist and fore-arm.* Integuments over these parts hotter, hut not redder than natural; no swelling.

On the 27th, arm still more painful, *somewhat swelled*; no redness. Superficial veins turgid; pain on pressure excessive. *Left shoulder* also painful. Patient complained of "soreness all over him," and said that his stomach was burning hot. Tongue red and moist.

28*th.* A small red and painful spot *between the eyebrows.* The whole of the right fore-arm swelled and extremely painful; skin glossy, and superficial veins very full; countenance sunken; no particular soreness in the wound.

29*th.* He expired.

In the *post-mortem examination* purulent effusion was found deeply seated, and in great abundance, within the cellular structure of the fore-arm, and of the other parts that had been the seat of pain. The wound itself presented no remarkable appearances. I have not noted the state of the viscera, and do not recollect whether they were examined; nor was any notice taken of the inner coats of the vessels.

In the preceding case we have absolute evidence of local inflammation of the parts in which purulent matter was subsequently discovered.

Case I.—In the summer of 1835, a case occurred in the New York Hospital, in which purulent depositions appeared spontaneously in different parts of the body, and in a manner somewhat similar to those that follow injuries. The patient was a young seaman. He had suffered from intermittent fever, and, if I remember rightly, he had had enlargement of the liver, or, at any rate, some functional disturbance of that organ. He entered the Hospital for erysipelas of his arm, which was not connected with any known injury, and was diffuse and extensive. Matter formed in the subcutaneous cellular tissue, and undermined the integuments in various parts along the whole of the limb. Sometime after the subsidence of this disease, the patient, remaining in a cachectic condition, had a succession of abscesses on different parts of his body and limbs. In general they were large, and, although circumscribed, they arose without any induration around them, and formed without the usual symptoms that precede cellular abscess depending on local inflammation. The skin above them was not discoloured; when punctured, and the matter evacuated, they collapsed to the natural level of the surrounding integuments, and healed without any further trouble. The largest abscess was on the back; it might have contained eight or ten ounces of purulent matter. One of the knee joints became involved, and the house surgeon was of opinion that effusion had taken place in the cavity of the joint itself, but of this he was not certain. After appearing thus at successive points in the cellular tissue beneath the skin, the purulent deposition finally settled upon his lungs, and he died.

From the preceding case I was led to believe that depositions similar to those following injuries and operations, may also be consecutive to spontaneous derangements; and consequently, that the connexion between the secondary abscess and the local injury by which it is brought about is neither immediate nor essential. Still I was unable to account for the secondary affection; and, by referring to authorities, I found that it had been already the subject of considerable speculation.

According to the views of some, the secondary abscess arises from a simple transposition of matter from the seat of a primary wound, the matter being taken up by absorption, carried through the circulation, and finally deposited, without inflammatory action, at the spot in which it is afterwards discovered. Others attribute it to the influence of special sympathies between the parts first affected and those that become disordered afterwards. Others, again, attributed it to constitutional irritation. One writer would have that secondary abscesses are merely the result of local injury received at the part secondarily

diseased. Finally, by the most recent observers, they are attributed to a vitiated condition of the blood, which is itself the effect of purulent depositions, or other inflammatory exhalations, forming within the cavity of the veins and mixing with the torrent of the circulation. Let us see whether the following cases can throw any light upon this subject.

Case II.—James Hall, the patient alluded to at the commencement, having suffered for years from necrosis of the femur, underwent a protracted operation for removing the dead portions of bone, November 17th, 1831.

The opening made through the callus was about six inches long. The operation lasted two hours. The vessels of the bone were cauterized, to prevent hemorrhage; and into the orifice of one of them a small tent of sponge was inserted and left. The patient did not lose much blood, but was greatly exhausted by the operation. Just before it his pulse was 84; on the day following it was 126; and never but once afterwards fell lower than 114, except on the seventh day, when it was at 100, while he slept. Immediately after the operation his stomach became irritable; he vomited every thing he took for about three days. On the fourth day he retained a dinner of chicken broth, and appeared to improve until the eighth day. His stomach again became irritable and continued so; he was unable to retain any sort of food except taken with lime-water, or porter and lime-water.

On the 26th of November he began to complain of *soreness and tension along the right wrist and fore-arm.* Integuments over these parts hotter, hut not redder than natural; no swelling.

On the 27th, arm still more painful, *somewhat swelled*; no redness. Superficial veins turgid; pain on pressure excessive. *Left shoulder* also painful. Patient complained of "soreness all over him," and said that his stomach was burning hot. Tongue red and moist.

28*th.* A small red and painful spot *between the eyebrows.* The whole of the right fore-arm swelled and extremely painful; skin glossy, and superficial veins very full; countenance sunken; no particular soreness in the wound.

29*th.* He expired.

In the *post-mortem examination* purulent effusion was found deeply seated, and in great abundance, within the cellular structure of the fore-arm, and of the other parts that had been the seat of pain. The wound itself presented no remarkable appearances. I have not noted the state of the viscera, and do not recollect whether they were examined; nor was any notice taken of the inner coats of the vessels.

In the preceding case we have absolute evidence of local inflammation of the parts in which purulent matter was subsequently discovered.

We find also a turgid state of the superficial veins, so striking as to have been especially noticed, without the knowledge of any theory on the subject at the time. Aggravation of the constitutional symptoms on the 8th day, external inflammation manifested on the 10th, and death on the 13th day after the operation. The purulent deposit, then, in this case, was not from a simple transposition or metastasis of pus from the primary injury, independent of inflammation in the parts containing it. Nor were the secondary affections the consequence of local violence, no external injury having been received.

Case III.—Elizabeth Towers, aged 36, an intemperate woman, was admitted into the New York Hospital November 28th, 1832, having fallen into the fire, while intoxicated, four days previous. The burn had extended deeply along the whole of the right arm, over the shoulder and breast, as high up as the clavicle; on the right cheek and forehead, involving the eyelids. When admitted, she was still in a state of prostration. She was at once put on an anodyne and stimulating course, which was continued until the sloughs began to separate.

Dec. 3d. Delirious and noisy; pulse 100, feeble. This morning she began the use of quinine, and continued it almost daily till her death.

Dec. 6th. Line of demarcation on the breast, extending round the shoulder to the back of the scapula. Mind composed; pulse 120; skin warm.

Dec. 7th. Subsultus; ulcerated surfaces dressed with powdered cinchona. The constitutional symptoms after this date remained about the same for several weeks; the patient resting at night under the influence of anodynes.

Dec. 11th. Sloughs on the arm, shoulder and breast, all separated. The fore-arm and hand one putrid mass; the bones themselves in places reduced to cinder, and a multitude of mites, some as large as flies, burrowing in the soft parts. For destroying these and removing the fetor, the sores were washed with a solution of the chloride of lime. At this period the shoulder would have been amputated at the joint, had there been integument enough to cover the wound.

Dec. 15. Edges of the sores at the upper part healthy and disposed to cicatrize. Doubts now began to be entertained of the fatal tendency of the case, owing to the remarkable manner in which the general system bore up against the injury.

Jan. 15th. Sloughs appearing over the sacrum in consequence of pressure from lying. Much more feeble than at last report.

About this time the *cornea of the right eye became inflamed;* there

was a deposition of *purulent matter within the chamber of the aqueous humour*, and in the course of three or four days the *whole cornea sloughed away*. The granulations on the forehead and other parts now began to fade, so much so as to be almost blanched. The patient lingered until the 9th of February, at which date she expired.

The sloughing of the cornea in this case was not by the extension of inflammation from the diseased integuments and parts about the face and forehead. The external ulceration had existed for six weeks without extending, or involving the eye; and when the eye itself took on the diseased action, the granulations were faint, and the ulcers in a languid condition. The disease of the eye appeared suddenly, and the destruction of the organ was the work of a few days. I am therefore disposed to group it among the secondary results of injuries, and believe myself borne out in this by a number of cases on record in which similar destructive inflammation of the eye was consecutive to diseases in remote parts of the system. Thus, in one case, a patient of Mr. Earle, of St. Bartholomew's Hospital, and from whom he removed a portion of a varicose vein of the leg for the cure of an obstinate ulcer; this form of disease in the eyes was among the secondary consequences. The operation was performed on the 25th of June, 1828, and the disease of the eyes appeared on the 3d of July following. The patient died on the 4th of July. The post-mortem appearances were such as indicated extensive phlebitis in the leg, with secondary abscess and inflammations in various parts of the body; and, "on removing the right eye, destructive changes were found to have taken place within the globe; the crystalline was so soft as to yield to the slightest touch; the vitreous humour was of a reddish yellow colour, and the vessels could be distinctly seen traversing its membrane; the retina was of a deep red colour."* Mr. Arnott† gives a similar case consequent upon an operation for tying the carotid, and in which case the jugular vein was injured. "About the tenth day the vision of the left eye became impaired, and was quickly lost." "In the course of a few days the coats of the eye sloughed at the upper part, and its contents were evacuated. Whilst these changes were occurring in the eye, collections of matter formed without pain in different parts of the body, in both shoulders above the insertion of the deltoid muscles, over the sacrum, &c." Five months afterwards the patient died, worn out by hectic; and, on post-mortem examination, "a portion of the jugular vein to the extent of two inches was found

* London Medical Gazette, Vol. II., p. 286.

† Medico-Chirurgical Transactions, Vol. XV., p. 118.

wanting, the upper and under extremities being shrunk, ligamentous, and gradually lost in the cellular substance. On opening the head, pus was found effused in great quantity between the tunica arachnoidea and pia mater, along the base of the brain, and the whole length of the spinal cord. The intermuscular cellular substance of the loins was loaded with pus. The viscera of the abdomen and chest were not examined." In the thirteenth volume of the Medico-Chirurgical Transactions, (p. 189,) are several other cases of similar character, related by Dr. Marshall Hall and Mr. John Higginbottom. In these the destructive inflammation of the eye followed the puerperal state, occurring from five to eleven days after delivery, accompanied with suppurative inflammation of the integuments in different parts of the body, and all terminating fatally. Five of the cases occurred under the observation of the gentlemen mentioned, and the sixth under that of Mr. Ward. They do not attempt to give any solution of the cause of this affection of the eye; but the subsequent observation of others is, I trust, sufficient to enable us to account for it, and to group the train of symptoms here noticed, in common with others occurring in the puerperal state, with secondary abscesses, and the other consecutive affections. Arnott, indeed, has already done this; and I cite these cases simply in support of the opinion already advanced, that the disease of the eye in the case of Towers was not a mere local inflammation by extension from the integuments, but that it is to be attributed to the same cause as secondary inflammations in other parts.

Case IV.—In the month of November, 1836, a black man, from 45 to 50 years old, was admitted into the New York Hospital with popliteal aneurism. The patient had a cachectic appearance, and was much emaciated. The artery, a few days after admission, was secured by Dr. J. K. Rodgers. On removing the dressing about a week after the operation, the wound was found to present an unhealthy appearance; no attempt at adhesion was observable; and, in a word, the wound seemed to take on a sloughy appearance from the first. The man became typhoid without any pneumonic symptoms. The wound, after the removal of the ligature, gave rise to secondary hemorrhage. The patient was kept on a stimulating and tonic course, but without benefit; and he sunk, just four weeks after the operation.

I made the post-mortem examination in presence of Dr. A. H. Stevens. The lungs were beset in all parts with distinct and circumscribed abscesses, filled with consistent pus, and varying from the size of a pea to that of a marble. The intermediate portions of the lungs presented nothing like tubercles. There were several spots of red hepatization, especially in the lower portions of the lungs.

I have no recollection as to the state of the pleura or pericardium. The heart was healthy, and also the liver. The blood-vessels were diseased as high up as the external iliacs; they contained no purulent matter, but there was an abundant deposition in their sheath, not exactly purulent, but presenting an appearance intermediate between that of pus and coagulable lymph. The femoral vein had been injured by the passing of the ligature, or it had ulcerated from the pressure of the ligature upon its side, leaving a small opening through its coat. Both vessels were filled with dark grumous blood, and their inner coats thickened, rough, and of the same colour as their contents. The iliac vessels appeared healthy, both artery and vein. No other vessels at any distance from the wound were examined. State of the brain not noted.

In this case we have an original wound unhealthy from the first, without the formation of pus; inflammation of both vein and artery as high up as the point where they enter the abdomen; abscesses of an acute character, and inflammatory congestion of the lungs; without knowing whether the inflammation within the vessels prevailed in any other part than in that leading immediately from the wound, and without detecting pus in any part of their cavity. This, as well as some other cases that I have to relate, tends to confirm an observation first made by Arnott, that inflammation of the veins has a tendency to terminate at the point where collateral vessels enter them, or where they themselves terminate in larger trunks. He has thus shown that the speculative opinion of Hunter* (who believed that phlebitis always proves fatal, by extending itself continuously along the vessels from the part first affected to the heart,) was not drawn from observation; and, although quoted by several who, since the days of Hunter, have written on phlebitis, that it is unworthy of credit.

Case V.—William Hamilton, a sturdy seaman, about 38 years old, while at sea, in January last, fell from the yard-arm and fractured his right thigh, producing a compound fracture above the middle of the femur. Eight days afterwards, viz: on the 15th of January, 1837, he was admitted into the hospital, and the broken limb placed on the double inclined plane. About five days subsequently, suppuration commenced in the wound and became very profuse. The matter, in consequence of the elevated position of the knee, was not freely and

* See Hunter's paper on Inflammation of the Internal Coats of Veins, in the first volume of the Transactions of a Society for the Improvement of Medical and Surgical Knowledge; and Arnott's comments upon the views of Hunter in the paper already referred to, in the fifteenth volume of the Medico-Chirurgical Transactions.

completely discharged as it was secreted, but burrowed between the muscles and gravitated towards the groin. The discharge soon became so abundant that thoughts were entertained of amputation; but the patient objected, and his general health not yet suffering much, the operation was deferred. At length he began to fail; and as all hopes of saving the limb was at an end, it was deemed proper to remove it. The amputation of the thigh, by the double-flap operation, was performed by Dr. Post on the 25th of April. Considerable time was spent in securing vessels, and the patient lost a great quantity of blood.

It should also have been remarked that, when first admitted, he had also a severe injury of the head, and for several days he was threatened with phrenitis, for which he was depleted very freely.

For some time subsequent to the operation he complained of an unusual degree of tenderness in the stump. His general symptoms were a very rapid pulse, loss of appetite, and great prostration. On the fifth day he was put on the use of bark and wine; but after continuing this treatment five days it was suspended, his symptoms having apparently been aggravated by it. Subsequent to this he was under very little active treatment, simply taking his anodyne at night.

On the 7th of May he began to be troubled with diarrhœa, which continued up to the time of his death; and about this time he also had, for the first, some symptoms of pulmonary difficulty. All this while the stump had progressed favourably. A portion of diseased structure had been left between the cut surface and the groin; the face of the stump, however, gradually healed. Subsequent to the 8th of May the pulmonary symptoms became more alarming, and on the 12th he expired.

Post-mortem examination, twelve hours after death.—The face of the stump was cicatrized; the integuments were adhering, with the other soft parts, to the cut end of the bone. The saphena vein was filled with firm coagulum, that could be easily withdrawn without adhering to the sides of the vessel. A large fistulous ulcer extended apparently on the surface of the pectineus and short portion of the triceps, along the inner side of the great vessels, the sheath of which appeared to form a part of its wall. It reached from the groin to the lower and posterior part of the stump, where it opened externally; its parietes were sloughy, and of a dark grayish or greenish colour. Deep under the face of the stump anteriorly was a collection of purulent matter, apparently not connected with the fistulous ulcer; for, when freed by incision, the matter gushed out with great force, as if it had existed under considerable pressure. A number of ligatures,

that had not been removed prior to the closing of the wound, remained buried in the soft parts.

On laying open the femoral artery, from its extremity to the origin of the profunda, it was found filled with grumous and partially decomposed blood. The sheath of the vessels was diseased and thickened. Above the profunda the artery was closed by a plug of fibrin, which did not adhere to the sides of the vessel, and was about two inches long; above this the artery was sound. The femoral vein and its continuations, as far on as the ascending cava, were completely filled with purulent matter, unmixed with blood, and adhering to the sides of the veins in layers like thin paste. In these layers there might have been a mixture of fibrin. Through all this extent the coats of the veins were not abraded; but at the termination of the iliac vein into the cava the calibre of the former was plugged up with a partially organized deposit, which was an inch or more in extent, and, on tearing it from its attachment, the inner surface of the vessel was found rough and granular. This deposit was of a dark red colour, probably composed of fibrin and the red particles of the blood. From its situation it effectually barred the purulent matter from entering the circulation. Above this the cava contained some coagulated blood, and was quite healthy. A patch of ulceration was found on the inner surface of the colon. Other organs of the abdomen healthy.

On opening the thorax, the left pleura was found to contain about a pint and a half of sero-purulent matter, and the membrane itself coated with layers of pus, and studded in spots with coagulable lymph. The right pleura was also coated with purulent matter, but there was not much effusion into its cavity. There existed two ill-defined abscesses, with ragged and irregular walls, in the lower part of the left lung; and one spot of apparent ulceration, about as large as a quarter of a dollar, on the outer surface of the upper lobe. The middle lobe of the right lung was infiltrated with purulent matter in every part, but no circumscribed abscess was observed. The whole of the parenchyma of the lung appeared to be permeable to air; its colour was that of gray hepatization. The lower lobe of this lung was still more extensively infiltrated; it was less pervious, and in its centre it presented the appearance of red hepatization. Heart apparently healthy; its left cavity empty, the right filled with coagulated blood.

In this case, besides the primary injury with inflammation communicated to the veins leading from the limb, we have ulceration of the colon, with pneumonic and pleuritic inflammation. We have here no right to say that the fluids were contaminated. The matters found in the thorax were beyond a doubt the result of local inflammation

there; and the plug of lymph partially organized in the upper part of the iliac vein, is a most beautiful illustration of the efforts of nature for preventing purulent matter from entering into the circulation and contaminating the blood.

Case VI.—John Smith, a labouring man, aged 40, was admitted into the New York Hospital April 28th, 1837, with compound fracture of his right arm, within a few inches of the head of the humerus; the accident caused by the blasting of a rock. I am not able to give the particulars of the early part of the case. The patient's symptoms about the middle of May were very alarming; I saw him then for the first time. The arm was in a state of gangrene, and he in a low muttering delirium, with subsultus, and all the signs of general depression. He continued without much apparent change in his symptoms until the 1st of June, when he expired. He had been on the constant use of tonics and diffusible stimulants. At one time a consultation was held on the propriety of amputation at the shoulder-joint, but the patient was then too much exhausted, and the dead parts of the limb were taken away simply to relieve the patient, and the ward in which he lay, of their fetor. Previous to his death he had several attacks of secondary hemorrhage, but I could not learn the amount of blood lost.

Post-mortem appearances.—The attachment between the axillary vessels and nerves stronger than natural; the nerves themselves unusually firm, and their neurilema of a deep red colour. The artery at its mouth (for it had been lacerated by the accident) blocked up with a partially organized coagulum about half an inch long, and attached by its lower extremity to the sides of the vessel. A small branch, from which the hemorrhage had probably occurred, was running from the main trunk, just at the termination of the plug of lymph; and a much larger one, which I took to be the external mammary, about an inch from the lacerated extremity. The internal coat of the artery, reaching from its extremity to the heart, was of a bright red colour, uniform, and uninterrupted by any thing like healthy structure; it appeared also to be thickened as well as highly coloured, but no abrasion was noticed on any part of its surface. The vein leading from the arm was also inflamed, but had not the florid redness of the artery; its inner surface was coated with a thin layer of puriform reddish matter, which could be easily scraped off. Having been called away at this stage of the examination, I left it to Dr. George Hodgson, who informed me that in tracing the cava descendens and vena innominata, an incision was accidentally made into the latter vessel, and gave exit to about a dessert-spoonful of bloody matter, much like the contents of a recent abscess. The lining membrane of

these vessels was in the same state as that of the axillary vein. The right cavity of the thorax contained about twenty ounces of bloody serum, of a light chocolate colour; the left about sixteen ounces; the pericardium about four ounces, and the peritoneal cavity about sixteen ounces, making in all about three pounds and a half. The substance of the lungs was healthy.

On cutting into the heart, the lining membrane of the right auricle was found highly injected, in colour resembling half ripe plums, and mottled in patches. The tricuspid valve also mottled, and of a deeper red than the other parts; the right ventricle altered but slightly; the semilunar valves of the pulmonary artery also deeply tinged; pulmonary vein healthy; the left auricle not so much altered in colour as the right; the mitral valve quite red, but not so much so as the tricuspid; the semilunar valves of the aorta very deep red, and the membrane over the corpora aurantii of the colour of ripe apple seeds. Abdominal viscera apparently healthy. Brain not examined.

In the preceding case the inflammation of the arterial cavities was the most prominent lesion, but there were unequivocal evidences of acute inflammation in the course of the veins and in the right side of the heart; yet no purulent depositions were discovered in any of the viscera, the parenchyma of the lungs and liver being in their natural condition. *Purulent matter in the veins, therefore, does not necessarily lead to purulent depositions in other parts.*

Case VII.—The particulars of the following case were recently communicated to me in a letter from my friend, John Hamilton, Esq., of Dublin.

A robust man, aged 28, fell into a trench upon some stones and dislocated his right femur. The accident happened twelve weeks before his admission into the Hospital; and during this time, having at first been under the care of an ignorant surgeon, he had been treated for a supposed fracture of the thigh, and the limb kept eight weeks in splints. The dislocation was upwards and backwards. On the 2nd of February, 1837, an attempt was made to reduce the displaced bone. The patient was bled, and the pulleys applied; but after half an hour's trial, with great torture to the patient, the attempt was given over. On the day after the operation the patient was in a high fever, complaining of pain in his arm at the place where venesection had been performed. It was clear that venous inflammation was commencing—it ran a rapid course. Abscesses formed in the course of the vein, and were opened; extensive erysipelas ensued, running over the arm, neck, down the whole of the back to the iliac crests on either side, and making its way forward to the median line. His pulse now

ranged at 164. He died on the 13th of February; that is, eleven days after the attempt at reduction.

Post-mortem appearances.—Cellular tissue around the vein matted together with lymph, with here and there small purulent deposits; collections of matter also existing among the muscles of the arm, and even below the seat of the wound. The cephalic vein, for four or five inches, filled with pale brownish pus, reaching as high up as the insertion of the deltoid, and above this the vein was healthy. Purulent matter also existed in the vein for an inch below the place of puncture; beneath this it was filled with dark clot. The cellular tissue of the arm infiltrated with reddish serum. Extensive adhesions between the pulmonary and costal pleura; the pericardium contained half a pint of serum, and the surface of the heart and pericardium was coated with a pale greenish soft lymph, and spotted with blood in many places. The head of the thigh bone was resting a little above the brim of the acetabulum, the opening of which was greatly contracted by the torn capsular ligament which had fallen into it, and become greatly thickened, forming a broad band across the cavity, which was filled with black fluid blood. The round ligament had been torn out with the head of the bone, and formed firm adhesions to the muscles with which it lay in contact. A large abscess existed around the joint, containing half a pint of pus.

Case VIII.—The following case has already been submitted to the Society by Dr. J. L. Vandervoort, to whom I am indebted for it. I saw the case myself during its progress, and attended the post-mortem examination.

The patient was a young robust female, who, about nine weeks prior to her admission into the Hospital, had been delivered of her first child. Her labour was a natural one, and the child of ordinary size. Nothing unusual occurred, and the patient was doing well until the end of the third week. At this period her child died; and now, owing, as was supposed, to imprudent exposure to wet and cold, the lochial discharge and the secretion of milk suddenly ceased, and were speedily followed by intense pain in the right hip, extending to the linea alba in one direction, and to the lumbar vertebræ in the other. In this state, under treatment for supposed rheumatism, she remained three weeks, when tumefaction commenced in the right groin, and, extending downwards, continued to progress until the whole member became involved in the same tense, shining, inelastic enlargement. The right labium also partook largely of the swelling, the left remaining unaffected. To these changes were superadded an excessive augmentation of pain and severe rigors.

When admitted into the Hospital, (about the 27th of November, 1832,) the limb presented the following appearances:—Extensive enlargement from the groin to the toes, exhibiting a surface smooth, shining, and of pearly whiteness, pitting slightly on pressure, and painful when touched or moved; the right labium distended with serum; uterine region tender to the touch, uterus itself seemingly much enlarged. The countenance of the patient was pale or chlorotic, and expressive of much suffering. Tongue moist and white; pulse small and frequent; bowels confined. The treatment after admission, in consequence of the advanced state of the case, was altogether palliative.

For two or three days after admission the patient suffered a repetition of the rigors, which were moderated by sudorific anodyne draughts. For the first week the limb appeared to lessen, the severity of the pain moderated, the countenance and appetite improved; but now the left leg began to swell, and a large sloughing sore from pressure appeared over the trochanter major of the right thigh, and this in a few days was followed by a similar one on the left thigh. A copious fœtid purulent discharge soon took place from the sore on the right hip, and careful examination detected deep seated fluctuation here. On the 11th of December, two weeks after admission, in attempting to remove the slough, about a pint and a half of pus escaped, with considerable relief to the patient, who was now put upon a more generous diet, with porter and quinine. During the following week the abscess continued to discharge profusely; the patient gradually sunk, and died on the evening of the 19th of December.

On the following day the body was examined, and Dr. J. K. Rodgers furnished Dr. V. with the following account of the post-mortem appearances.

The integuments of the abdomen being turned aside, it was ascertained that the opening in the right hip communicated with an abscess which passed into the cavity of the pelvis and occupied its right side, with space sufficient to contain more than a pint of pus; thence it passed down behind the femoral vessels to the middle of the thigh. The external iliac and femoral vessels (veins) of the right side were thickened and nearly filled with coagula; and the inguinal, immediately behind Poupart's ligament, was completely obstructed for about three-fourths of an inch with a yellowish substance apparently organized. The left external iliac and inguinal veins were also thickened, but not to the same extent as those of the right side. The left femoral was also obstructed for about half an inch about one-third way down the thigh with a substance similar to that on the right side.

The internal iliacs were somewhat thickened, but slightly. The uterine veins were apparently free from disease. The arteries of the lower extremities were rather more contracted than natural; absorbents and glands unaffected.

In the preceding statement we have no account of the viscera of the chest, or of those within the abdomen, at any distance from the original disease. If I remember rightly, they were not examined. The original disease, in this case, was probably seated in the uterus; and although the uterine veins are reported as apparently free from disease, I suspect they were not examined with sufficient care to render their sound condition certain. When first examined by Dr. Vandervoort, the uterus was seemingly much enlarged, and the uterine region tender to the touch. In fatal cases of phlegmasia dolens related by others, the veins of the uterus have been found inflamed, and the inflammation to have extended from them to the other vessels.

In comparing the pathological appearances observed in the preceding cases with those of similar cases related by others, I find that abscesses and other morbid appearances are not uncommon in other organs than such as I have noted, particularly in the liver and the spleen,* and even in the muscular substance of the heart.† The liver, it would seem, is more apt to be secondarily diseased after injuries of the head,‡ or of the viscera of the abdomen,§ than after any others. Dr. Nasse, of Bonn, estimates that abscesses of the lungs are to those of the liver as 11 to 3, and to those of both organs simultaneously, as 10 to 4.‖ The secondary disturbances of the spleen and other viscera of the abdomen are still more rare than those of the liver. Inflammatory appearances within the brain are also occasionally mentioned. I have not observed them in connexion with phlebitis, if the following was not an example of this sort.

Case IX.—On the 13th of March last I examined a man who had died in the Hospital on the day previous, in consequence of an operation for extirpating a tumour from his neck. The tumour lay behind the posterior edge of the sterno-cleido-mastoideus; no important vessel or nerve was wounded during the operation. After it, however, the patient soon became comatose, and survived only a few days.

In the examination, the former seat of the tumour was found to be a vast mass of disease, consisting mostly of crude purulent matter,

* Rose. Medico-Chirurgical Transactions, Vol. XIV.

† See a case related by Mr. Lawrence, and appended to Arnott's paper.

‡ See a collection of these cases, compiled by Arnott. Loco Citato, p. 75. Cruveilhier.

‖ British and Foreign Quarterly Review for April, 1837, (No. 7,) p. 504.

mixed in with the natural tissues and with coagulable lymph. The inner coats of the veins were not examined, but the tunica arachnoidea was one red sheet of inflammation, and there was considerable effusion into the ventricles. The lungs were in their natural condition. The viscera of the abdomen were not examined.

The capsules of the joints are also frequently found involved. In the first case I have alluded to this; but much more striking examples are recorded by others. In the second case related by Arnott, it followed inflammation of the veins, which was excited by puncturing the cephalic in blood-letting. After death, besides purulent matter in the veins and inflammatory appearances within the brain, "the cavity of the knee-joint was filled with tolerably thick pus, of a uniformly reddish colour, as if from an intimate mixture of blood. The synovial membrane was thickened, with an irregular and almost villous surface; it was extremely vascular in its whole extent. The cartilages covering the femur and tibia had undergone considerable absorption, so that the convexities of the femoral condyles and the corresponding excavations of the tibia were completely bare. The cellular substance covering the capsule of the knee under the extensor muscles was inflamed, thickened, and loaded with pus, &c."*

Pathological Deductions.—Before attempting to compare the facts of the cases now given with the theories advanced on the subject of secondary abscess, let us examine our data in a more contracted view; and, without touching any theory, draw what deductions we can from them.

1*st*. From the foregoing statements, we have seen that injuries and surgical operations, not dangerous in themselves, may be followed by severe, and even fatal, secondary affections in distant parts of the body, and in organs essential to life; and that the pathological states, thus induced, are not necessarily connected with a previous external injury, inasmuch as they may be induced, independent of such injury, by disease arising spontaneously in the system. The case number one is sufficient to substantiate the latter part of this observation. The fact has also been admitted by others. "Such secondary formations in internal organs," says Nasse, "may be equally the result of spontaneous suppuration in external parts, the more readily if the latter have its seat in the veins."†

2*nd*. The most usual pathological appearances found after death in these cases are, depositions of purulent matter, inflammatory con-

* Loco Citato, p. 18.

† British and Foreign Quarterly Review, No. 7, for April, 1837, p. 502.

gestions, effusions of coagulable lymph, sero-purulent effusions, effusions of sanies or bloody serum, adhesions of contiguous surfaces, ulcerations and disorganizations of different structures, as of the eye, and of the tissues about the joints. The whole of these pathological conditions are not often found existing together; many of them, however, may concur in the same case, and the most characteristic of them are those noted at the first. The tissues within which these morbid changes are most common, are the cellular tissue, whether subcutaneous, parenchymatous, or intermuscular; the serous tissues, as of the thorax, the abdomen, and encephalon; the synovial membranes, the skin, the muscular texture; and, in one case, the mucous membrane of the colon was also found involved.

The organs most frequently affected are the lungs, the liver, the brain, the spleen, and the knee and shoulder joints; but almost any organ of the body may be the seat of these secondary disorders. They have been observed in the eye, within the cavity of the spinal column; in the walls of the heart, and in other parts.

3d. In all cases of the kind under consideration, in which thorough examination has been made, the inner coats of the veins in the neighbourhood of the primary injury, and in other parts of the system, have been found inflamed. In some cases the arteries too were found diseased; but inflammation of the inner coat of the arteries appears to have no necessary connexion with the other consecutive affections, the external diseases connected with it being of a different character. With respect to the veins, the case is different, for well characterized examples of pure phlebitis have been shown to be attended with secondary affections in all respects identical with those following operations and accidents; and the only reason why so many cases of secondary abscess, &c., are recorded with reference to the veins, is, that physicians hitherto have generally passed over these vessels without investigating their pathological condition. Without referring to the cases I have furnished, the immense number of facts related by Cruveilhier, Dance, Arnott, Breschet, Lee, and others, may be considered sufficient to have put this subject at rest.

4th. In cases of secondary abscess, and other consecutive disease connected with inflammation of the veins, generally, but not in every instance, purulent matter is found within the cavity of the diseased vessels. In case four, the inflamed veins, instead of containing pus, were filled with thick grumous blood; and in the case of John White, related by Mr. Travers,* the veins, although inflamed, presented no

* Cooper and Travers' Surgical Essays, Vol. I., p. 179, Philadelphia edition of 1821.

signs of purulent formation within their cavities. There is some reason to believe that in cases proving fatal during the adhesive stage of inflammation in the veins, or before the purulent matter has time to form in them, that pus is not so common in remote parts; and that the evidences of inflammation in these parts are more commonly such as usually precede the secretion of pus.* This remark, however, is not to be considered applicable to all cases. I have already given instances to which it could not apply. Arnott has stated that phlebitis may prove fatal without any secondary local affection. He might have been led to this observation from examples similar to those just mentioned, where no purulent matter is discovered. But it is questionable how far his statement can be substantiated; for, although pus is not found, other evidences of a secondary disease may exist, as inflammatory congestion, the effusion of lymph, serous or sanguineous effusions. At any rate, he has not substantiated his statement by cases, and it remains, therefore, to be proved.

5th. The purulent matter formed within the veins may be either blocked up by a barrier of lymph,† or exist in a free state,‡ without any such barrier to prevent it from entering into the circulation and contaminating the blood. But the secondary abscesses are known to occur, in connexion with phlebitis, whether the pus in the veins be free or circumscribed; and even when no purulent matter has been detected, either in the original wound itself, or within the veins leading from it. These remarks are abundantly supported by the facts of the cases already given, and should be remembered in considering the theories that have been advanced on the subject of secondary abscess.

6th. Purulent matter existing free within the cavity of the veins does not necessarily lead to the formation of secondary abscesses in the viscera.§

Cruveilhier has attempted to draw a broad distinction between the influence of purulent matter taken up by absorption, and that which enters the circulation in its natural state; for it is well established that vast deposits of pus may be taken up without affecting the system, while a small quantity, forming within the veins, may be attended with fatal consequences. But the distinction in this respect is not

* See Cruveilhier's Experiments, to be mentioned subsequently; also Hodgson on Inflammation of the Arteries and Veins, p. 555, for a case justifying this remark. Also the case of White, related by Travers; and that of Cute, by the same writer.

† See Case V. ‡ See Cases VI. and VII. § See Case VI.

worthy of the consideration he has attached to it. Whether the pus enters the circulation by absorption or by mixing directly with the blood, the consequences must be the same, so long as the general system is unimpaired, and especially while there is no disease at the time existing within the veins themselves. Pus in no inconsiderable quantity may be thrown into the circulation artificially, without producing any deleterious effects. The experiments of Nasse, in which he injected from two to three drachms of ill-conditioned pus into the jugular veins of dogs, had no injurious effect upon these animals; nor did he, on killing them, after the lapse of a few days, discover any morbid symptoms in any of their organs. With other physiologists the same kind of injections, repeated until they caused the animal's death, were found to have produced signs of inflammation in the heart, the lungs, and the intestines.* But the abundance of foreign matter in the latter examples, would be sufficient to account for the morbid effects; and it is probable, any other foreign substance, how mild soever in its nature, would, if thrown into the circulation, have the same effect. The difference, therefore, between the pus absorbed from abscesses, and that which is formed, without being circumscribed, within the veins themselves, is, with respect to their several effects upon the constitution, not owing to any modification which the former undergoes by being absorbed, but rather to the diseased condition of the vessels in which the latter is secreted.

7th. Let it, however, be remembered, that besides these secondary disorders connected with phlebitis, there are others occasionally resulting indirectly after operations, &c., of an entirely different description, and, so far as we are able to judge, in no way connected with disease of the veins. Under this head we may group such as may be manifested during the existence of high inflammatory excitement, and such as come on more slowly after the system has been much exhausted by protracted disease and hectic fever. Under both of these circumstances, the organ to become secondarily affected, may, in a measure, be determined by the derangement in the circulation and nervous influence of the part, by the increased or vicarious functions to which the general derangement may subject it, and, above all, by its previous disposition to disease. It is not uncommon for persons predisposed to phthisis, for example, to have this disease developed in consequence of the removal of a scrofulous limb; and this fact, of which we had an example in the hospital last winter, is now so well established, that it is laid down as a rule, not to operate on scrofulous limbs until, by

* British and Foreign Quarterly Review, No. VI. p. 504.

exploring the chest, we are pretty well assured the lungs are free from tubercular disease.*

Case X.—William Cooper, a young Irishman, was admitted into the Hospital in the spring of 1836, with disease of the knee joint, excited by local injury, and involving most of the tissues about the joint, without affecting the bones or the synovial membrane. He remained under treatment about six months, without improvement. The discharge from the ulcerated surfaces and the tissues about the joint was inconsiderable, but the disease was obstinate, the constitutional disturbance very great, and the patient, in consequence, much exhausted. In the month of November or December the limb was amputated. After removing the local irritation, the patient for some time was improving in general health; but at the end of five or six weeks, the stump not having healed kindly, he began to cough, and to be troubled with purulent expectoration and night sweats; in a word, with all the symptoms of phthisis pulmonalis, of which he died about the first of May, 1837.

The following is an apt illustration of inflammation of the lungs induced by protracted disease of the knee joint, attended with hectic symptoms, and in which the vessels were not at all affected—one of those cases, in fact, where, without attending to post-mortem appearances, we might be led to think that no internal disease existed, and that the patient died from pure exhaustion.

Case XI.—On the 6th of July, 1837, I made the *post-mortem* examination of a youth, about 17 years old, who died in the Hospital on the preceding evening. He had been under treatment for several months, with scrofulous inflammation of the right knee. The disease had opened externally, and the whole joint was deformed. Constant pressure from lying had produced ulceration of the soft parts around the sacrum, and this bone became extensively exposed. Superficial abscesses afterwards formed along the upper part of the left thigh, and the whole of this limb became œdematous; the ankle joint of this side much swelled, and twisted sidewise, apparently from relaxation of its ligaments. He had irritative fever, and gradually sunk without manifest disease in any vital organ; in short, the house surgeon informed me that the patient died of pure exhaustion.

I found the lower extremity of the right femur carious, the cartilages and the outer part of the bones beneath them ulcerated; the exposed surface of the latter being rough, soft, and easily broken down. The inside of the joint was one vast putrid abscess; the patella was pushed

* Cruveilhier, livraison 11me, p. 1re.

out of its natural position, and adhering by osseous union to the outer side of the external condyle of the femur, both bones about this union being in a carious state. The abscess of the joint did not extend beyond the crucial ligaments, but wound round the inner condyle to the posterior part of the femur, which was exposed for one-third of its length. The whole limb was infiltrated with serum. The blood-vessels leading from this diseased mass, as well as those of every part of the system examined, were perfectly healthy.

The right lung adhered firmly by cross-bands of lymph already organized to the parietes of the chest; the middle and lower lobes congested, and in a great measure hepatized, presenting spots of the appearance of red porphyry, others of gray hepatization; when cut, giving exit to blood, frothy mucus, and muco-purulent matter. An abscess, filled with reddish, thick bloody matter, existed under the middle lobe, and a similar appearance was observed in the interlobular space between the upper and middle lobe. The left pleura contained three or four ounces of bloody serum. An abscess, containing similar matter to that noticed in the right lung, lay immediately under the pleura at the side of the lower lobe; it had burst, and the cavity which had contained the matter was lined with a smooth, shining membrane. Heart, and the vessels attached to it, healthy; liver also free from disease.

The condition of the lungs in this case is a striking illustration of the insidious influence of external disease upon the vital organs. The affection of the lungs here was not the rapidly destructive inflammation connected with phlebitis; it was no doubt developed by the irritative fever, and its symptoms marked by those of the more painful malady of the external parts. I might here ask, do patients ever die of exhaustion from the long continued irritation of external disease without the developement of inflammatory action in some one or other of the vital organs?

Again: after primary operations on persons previously in vigorous health, it is not uncommon for severe inflammatory fever to ensue; and, under these circumstances, organs remote from the primary injury may take on inflammatory action. After severe scalds and burns, among the most frequent constitutional derangements, we have acute inflammation of the mucous membranes, particularly of the stomach, and of the air passages leading to the lungs. But the cases now referred to are not of the same character as those in which the veins are involved; the secondary inflammation being the result of general disturbance, and in itself not often so uncontrollably fatal as that connected with phlebitis.

Theoretical Considerations.—From what has now been said, it is evident that secondary depositions, and other pathological phenomena connected with them, are not in all cases, if indeed in any, simply the result of absorption and subsequent transposition of pus from a remote part of the system. Secondly, that inasmuch as these depositions occur in all parts of the body, without any definite relation to the part primarily affected, they cannot be attributed to any special sympathies between the parts first diseased and those affected afterwards. Thirdly, that the doctrine which imputes local violence to the part secondarily diseased, is without the shadow of truth. Fourthly, that the doctrine of constitutional irritation, as applied to the formation of secondary abscess, by not pointing out the manner in which the constitution becomes involved, and being in itself indefinite, gives us no real light as to the nature of the disorder. But if we are to infer from it, that the secondary disturbances are excited through the influence of the nervous system, instead of being merely a useless theory, it becomes absolutely an erroneous one. Lastly, that the doctrine which ascribes the secondary disorders to a vitiated condition of the blood, induced by the purulent matter, or other morbid exhalations of inflamed veins mixing with the blood, the contaminated fluid thus exciting local inflammation in the parts secondarily diseased, is the doctrine most conformable to facts; one against which, nevertheless, there are several serious objections, and it is therefore necessary to examine it with more attention.

The arguments in favour of this doctrine are, 1st, that in every case of secondary abscess, where thorough examination has been made, the veins have been found inflamed: 2nd, that phlebitis artificially induced, is attended with symptoms and post-mortem appearances identical with those under consideration: 3d, that mercury introduced into the veins, has been found imbedded in the different viscera, (as the lungs, the liver, &c.,) surrounded with portions of diseased tissue which presented all the grades of inflammation from simple sanguineous congestion to depositions of pus, and even tubercular matter: 4th, that in cases of adhesive inflammation of the veins, or of suppuration limited by barriers of lymph from entering the circulation, the secondary disorders are uncommon. It has even been said that they do not occur at all; but such is not the fact. The first argument of course does not apply to those cases of secondary disturbances connected with general inflammatory excitement or hectic fever already referred to. The proofs in favour of the second and third arguments are conclusive, and for the details of these I must refer to Cruveilhier. The fourth argument has been advanced without any qualification by this last

writer. I have, however, already given cases to which it cannot be applied, and I shall refer to it more fully hereafter.

The arguments against the doctrine in question, are, 1st, that purulent matter in its simple state, has not been proved to be an irritant capable of exciting inflammation in the sound tissue; and, 2nd, we have no proof of any other inflammatory secretion within the veins, excepting only coagulable lymph, which is itself one of the constituents of the blood in its healthy state, and therefore not at all likely to be an irritant capable of producing inflammation. 3d. But admitting, for the sake of argument, that these substances are capable of exciting inflammation on various surfaces in the course of the circulation, it is nevertheless certain, that such inflammation, in connexion with phlebitis, may be excited where the pus and lymph are blocked up or coagulated, so as not to be in a condition to enter the circulation. But again, to use Cruveilhier's own argument against himself, he has pretty well succeeded in showing that secondary abscesses depend upon phlebitis of the smallest branches of the veins, and even of the capillary veins in the organs, or parts of the organs, containing the abscesses. Now it is a point admitted in pathology, that inflammation occurring in any tissue, is more disposed to confine itself to that tissue than to spread to others; and that when it has shown itself in one portion of a given tissue, it is not uncommon for it to occur in a distant portion of the same, without any absolute communication. This we see every day in inflammation of the skin, of the mucous membranes, of the structures about the joints, in diseases of the arteries, of the periosteum, and even in diseases of the bones themselves. Admitting this to apply also to the inner coat of the veins, and we have a sufficient reason to account for the occurrence of secondary inflammation, without the necessity of purulent matter, or any other foreign substance, in the blood. Arnott, it is true, has shown that in fatal cases of phlebitis, the inflammation is not generally continuous from the diseased vessel to the heart. But this does not invalidate the argument under consideration: for it is not often that disease, running along any tissue, is absolutely continuous; on the skin we may have inflammation manifested in distant or distinct patches; so also on the mucous membrane; and so also in the arteries; thus, a patient may have a series of aneurisms, from disease of the inner lining of the vessels, at the arch of the aorta, in the common iliacs, and in each of the popliteals, with the tissue intervening between these several points entirely round.

Admitting the statement just advanced to be a true exposition of the pathology of these secondary disturbances, it then follows that the

first three arguments in favour of Arnott and Cruveilhier's doctrine, apply with equal and even greater force to this; and that the fourth, which, under just limitation, is but a dubious argument in their favour, is strongly corroborative of my view of the subject. For if inflammation can arise in the veins simply from the facts, that it is at the time existing in a different, or even distant part of the same tissue, and that disease has always a tendency to confine itself to the tissues in which it is already existing, how much the more likely will it be to take on diseased action when the blood circulating along it is no longer a healthy fluid, but mixed up with foreign matters, which, if not deleterious in themselves, become at least injurious by filling up the space which should naturally be occupied by unadulterated blood.

Another argument, and perhaps not the least in favour of the opinion now advanced, is that it is not necessarily opposed to the doctrine of simple deposition of pus from the blood, independent of local inflammation, as maintained by Velpeau and others; a doctrine essentially opposed to that of Cruveilhier and Arnott. In one of the cases related by Arnott himself, he acknowledges that "collections of matter formed *without pain* in different parts of the body, on both shoulders above the insertion of the deltoid muscles, over the sacrum, &c."* The case number one, I took, during its existence, to be one where purulent matter was thrown into the subcutaneous cellular tissue, independent of local inflammation there. But the particulars of the case might not have been noted with sufficient accuracy at the time, and I hesitate to advance it as a positive proof on this question. I am the more willing to speak thus hesitatingly, knowing that persons of cachectic habit, or in whom the vital energies have been much depressed, (as in the latter stages of putrid fevers, or in vitiated states of the fluids,) morbid action is developed with astonishing rapidity, often unattended by pain and without any general reaction of the system. In the latter stage of scarlatina maligna, for example, I have seen mere pressure of one knee upon the other, produce extensive ulceration of both surfaces; the patient, in the mean time, although sufficiently sensible to speak, apparently unconscious of this local disease, and giving no signs of suffering from it.

But the whole weight of the opinion I have advanced respecting these secondary abscesses, rests upon the statement of Cruveilhier, that they are the immediate result of local capillary phlebitis. Let us now see what proofs he gives in support of this; for if these are insufficient, the doctrine adduced from them must still be considered hypothetical.

* See his third case.

"Every foreign body," says he, "introduced in its natural state into the venous system, determines, when its eliminations by the emunctories is impossible, abscesses of the viscera in all respects similar to those which succeed to wounds and to surgical operations, and these abscesses are the result of a capillary phlebitis of these same viscera."* Without entering into the details of his experiments to show that these abscesses are connected with phlebitis of some of the larger vessels, or of the veins in the neighbourhood of the original injury, a fact which has been already shown, we will confine ourselves to the experiments he has advanced to show the existence of phlebitis in the organ in which the abscess is situated, and that the abscess is the result of it.

"If an irritating substance, ink for example, be injected into the femoral vein of a dog, from the upper towards the lower extremity, provided the collateral veins do not carry the liquid into the torrent of the circulation, in which case it would prove immediately fatal, at the end of thirty-six hours the diseased membrane is tumefied; and if the animal dies or is destroyed, an immense multitude of sanguineous or apoplectic spots (*foyers apoplectiques*) is found in the substance of the muscles and of the cellular tissue of the limb. The larger veins are distended with concrete and adherent blood, the *smaller veins corresponding to the apoplectic spots are equally full of concrete blood, while those corresponding to the sound parts are free.* If the animal survive the experiment, *collections of pus replace the apoplectic spots, and at the same time pus replaces the coagulated blood in the veins.*"

"A piece of wood was introduced into the femoral vein of a dog from its superior extremity as far as the hollow of the ham; and another piece, from below upwards, as far as the cava ascendens. The animal died on the sixth day with much oppression. The inferior extremity was infiltrated, and the infiltration had extended as far as the walls of the thorax. All the veins and venules of the inferior extremity were injected with pus. When the muscles were divided, *small collections of pus appeared here and there, which were the veins swelled with pus that could be pressed out from them with the greatest facility. Around these venules the muscular tissue was red, fragile, in a word, in that state which precedes suppuration. The sound veins always corresponding to parts of sound muscles, and the diseased veins conducted constantly to an indurated spot.* The femoral vein was transformed into a purulent canal, from which proceeded at the side of the sound branches, other branches filled with pus. The synovial membrane of the knee contained a purulent synovial fluid."†

After some desultory remarks upon these experiments, in which he attempts to show the influence of the venous system in controlling various functions, and to establish the hypothesis that phlebitis predominates in the whole of pathology, he comes to the following conclusions, viz:

* Anat. Patholog.—Livraison, 12mo., p. 4. † Loco Citat., p. 4.

"That visceral abscesses, and all the phlegmasiæ consequent upon wounds and great surgical operations, are the result of capillary phlebitis; and that this capillary phlebitis is itself the consequence of another which has its seat in some point of the venous system. That this capillary phlebitis presents always the same characters whatever may be the point of departure; thus, the capillary phlebitis consequent upon uterine phlebitis, that produced by bloodletting, the excision of varicose veins, an amputation, wounds of the head, and comminuted fractures, amidst innumerable varieties are so identical in their characteristic phenomena, that we may with all safety conclude from particular to general." "I do not at all admit," says he, "as Mr. Dance has thought fit to do, that the pus secreted in an inflamed vein, and transported into the organs, concurs directly of itself to this species of purulent degeneration. Pus once mixed with the blood is no longer pus, but rather an irritating substance. The rapidity of the formation of visceral abscesses, and the integrity of the neighbouring parts do not appear to be peremptory objections against inflammation; for forty-eight hours sometimes suffice for producing pus in an inflamed vein; and, on the other hand, the circumscription of the pus and the multitude of deposites, are admirably explained by the seat of inflammation in the capillaries."*

Taking then the doctrine of capillary phlebitis for granted, the view that I have taken of the subject differs in no other respect from that of Cruveilhier, than in the necessity for the entrance of purulent matter into the circulation, in order, according to him, to contaminate the blood, and excite the secondary affection; a necessity upon which that author in no measured terms insists.

"The effects of adhesive phlebitis," says he, "are purely local; and it is the same with phlebitis in a state of suppuration, when the pus is circumscribed by clots so as not to be able to penetrate in its natural state into the circulation."† "How extensive soever the phlebitis may be," he remarks in another place, "so long as the pus accumulated in the inflamed veins does not communicate with the circulation, nothing but local symptoms results from it. Thus pus may be absorbed as in every other purulent collection, (*foyer*) and eliminated in the ordinary way; it may distend the vein, produce thinning of its coats, and work itself outwards through the lacerated parietes; or abscesses may result from it, which an inattentive observer may confound with abscesses of ordinary character."‡

Now in opposition to these statements, I may advance the case number four, in which though there was no pus in the inflamed vein, yet the lungs were studded with secondary abscesses; and the case number five, in which, though the pus in the veins leading from the stump was blocked up with lymph, yet the system became affected, and the lungs were extensively permeated with purulent matter, and gave other signs of local inflammation. It is clear, therefore, that

* Loco Citat., p. 9. † P. 11. ‡ P. 12.

Cruveilhier's theory on this point covers too much ground, and that if the secondary disease is really a capillary phlebitis, such phlebitis may occur under circumstances that preclude the possibility of the admission of purulent matter, in its natural state, into the circulation.

I do not, however, wish to maintain that such is often the case. On the contrary, I am persuaded both from reading and observation, that in the generality of cases pus does really enter the torrent of the blood. But I see no reason to doubt that matter, formed originally within the veins, may subsequently be thrown out of the circulation as any other foreign or useless substance, without exciting local inflammation in the parts upon which it is deposited. For it does not follow because capillary phlebitis leads to the local secretion of pus, that the existence of pus in any part is a proof of previous inflammation there. In the majority of instances, the secondary abscess is, beyond a doubt, connected with local inflammation; but where we see superficial collections appearing suddenly, without pain, heat or redness, in a word, without any other of the common signs of inflammation than mere tumefaction, we have good reason to believe that such matter has been deposited independent of inflammatory action; in short, that it is an exhalation from the contaminated blood, thrown into the cellular tissue in the same way that serum is thrown into the cells of this tissue in a healthy condition of the system; and that it may be taken as evidence of an effort on the part of the general economy, to unburthen the circulating fluid of a foreign substance, by depositing this substance in places in which it is not so likely to be injurious.

Forms of Secondary Diseases.—1*st, from General Derangement.*—We are now ready to come to something like a definite notion as to the nature of these secondary diseases. In attempting to reconcile some of the more plausible theories on this subject, we have seen that these diseases fall naturally under two distinct divisions. The first, to which we have merely alluded in the preceding discourse, are developed indirectly after injuries or operations, either in consequence of high inflammatory action and its attendant derangement of the circulation, or in consequence of protracted irritation with exhaustion and fever of a hectic character; the individual organ most liable to take on diseased action under either of these circumstances, depending either upon its previous disposition to disease, or upon the extra functions which it is called upon to execute.

2*nd. Depending on Traumatic Phlebitis.*—The second division, or those which have principally occupied our attention hitherto, are entirely different in their nature. They are in all cases connected with

phlebitis, and generally with suppuration within the cavity of the veins. The secondary abscesses in these cases, when of an inflammatory character, are the result of a capillary phlebitis, which is itself subsequent to the phlebitis of the larger vessels. But when these abscesses are not connected with local inflammation, they are simply the result of a deposition of purulent matter, formed originally within the diseased veins; this latter variety standing in nearly the same relation to the other, as abscess by congestion does to common phlegmon.

From what has now been shown we can have no hesitation in admitting traumatic phlebitis among the most alarming diseases that fall under the eye of the surgeon. I have heard it asked whether it is ever curable at all; a question, in truth, not far out of place; for the pathology of the veins has hitherto, by practitioners generally, been so little studied, and the principles of treatment so little understood, that the greatest number of the severer cases terminate fatally, or advance beyond all chance of recovery before the true character of the disease is even suspected.

Adhesive or Local Phlebitis.—There is, however, a milder form of phlebitis, perhaps a more common one, in which, although attended with excitement, the inflammatory fever never assumes a typhoid character, and the disease of the veins is either limited to adhesive inflammation, with closing of the caliber of the vessel, or, if it progress to suppuration in any part, the purulent matter is always circumscribed: the blood, in these cases, does not become contaminated, and the secondary derangements do not generally ensue. Cruveilhier, as I have before remarked, maintains that in this form, the system never becomes secondarily affected. But I have shown that the difference between this and the severer form is not an essential one. Still, it must be admitted, that when the primary phlebitis is of the character just stated, the secondary disorder is comparatively rare, and the patients commonly recover. The same relation appears to exist between these two forms of the disease, as existed between local erysipelas, in which the general system is not much if at all deranged, and that which comes on with typhoid symptoms, affecting different parts of the surface simultaneously, or spreading from place to place until it has covered the greater part of the body; and finally, after inducing inflammation of the brain, or some other vital organ, terminating fatally.

In illustration of the milder form of phlebitis, we may allude to phlegmasia dolens, a disease not often fatal, and the pathology of which, since the investigations of Davis and Lee of England, Bouillaud and Velpeau of France, is no longer a matter of dispute. But even this disease is occasionally attended with alarming and fatal conse-

quences; the case furnished me by Dr. Vandervoort is one of this kind. The following case is here in point, as illustrative, among other things, of the milder form of phlebitis and simulating phlegmasia dolens in the female.

Case XII.—Peter Dolan, a sturdy young Irishman, aged about 20, was carrying a heavy stone on his shoulders, when slipping, and the stone falling on him, he fractured his right humerus near the upper part of the bone, and by the pressure of the stone, had the whole of the soft parts at the inner flexure of the right elbow, lacerated and laid open. He was immediately brought to the hospital (November 5th, 1836.) When admitted, reaction had not yet come on: no pulsation could be felt at the wrist of the injured arm: the forearm was turgid, purplish and cold: the wound was filled with coagulated blood, which was also impacted under the integuments and between the muscles. It was evident that the artery of the arm had been torn in two, if not also some of the principal veins. Under this state of things it was a question of some importance whether any attempt should be made to save the limb. The patient was a temperate man, with youth and a vigorous constitution in his favour; and after some deliberation Dr. Stevens resolved not to amputate. Much difficulty was experienced in discovering the lacerated artery. An incision of about two inches long was made at the inner edge of the biceps, and afterwards carried down to meet the laceration; and finally, after removing all the clotted blood, the vessel was found with its torn extremity projecting about an inch free into the wound, and its orifice closed with coagulum, so as not to allow any further hemorrhage. A ligature was put round the vessel, the wound filled with dry lint, and the arm secured by a splint at the seat of fracture. The elbow was then placed in a flexed position on a pillow, and subsequently kept flexed by a tin elbow splint.

The fracture united as readily as if there had been no complicating difficulty. Suppuration, in the course of a few days, became profuse in the wound; and to prevent it from burrowing about the joint, a counter opening was made between the olecranon and the inner condyle of the humerus. Pulsation had returned in the radial artery before the end of the month.

About two weeks after the accident, the patient observed for the first time that his left leg was swollen and painful: the pain was aggravated by moving the leg, and pressure on the groin could not be borne. There was no discoloration, but the whole limb was hotter than the other: did not pit on pressure, and had a hard brawny feel to the hand. The inguinal lymphatic glands were slightly enlarged. Various

embrocations were used without relief. Leeches were applied with partial benefit. During the whole progress of the case the constitutional symptoms were never very severe, although at first there was considerable inflammatory fever, which was kept down by abstinence and other antiphlogistic measures. At the end of two months, the wound having cicatrized, he began to use the arm; and at the end of eleven weeks he left the house, with his elbow still somewhat stiff, the arm as strong as it had ever been, and the swelling persisting in the leg and thigh.

I met this man accidentally on the 30th of May, 1837; he was then employed in attending masons. All the motions of the arm were perfect. The cicatrix at the elbow, about three inches long, running obliquely across the tenton of the biceps, but not involving it, terminated near the origin of the pronator teres, some of the fibres of which were probably involved in the injury. The small cicatrix left by the counter opening, troubled him considerably by pressing on the ulnar nerve, and causing pain along the forearm and at the terminations of the nerve in the little and ring fingers. The leg still swelled, and at times painful.

On the 28th of June last he called upon me for advice, stating that his leg was still as large as ever; that after standing for some hours it becomes very hard and large, and that at these times the veins of the lower part become full and prominent. He suffers pain about the hip and inner part of the thigh. The circumference of the diseased thigh I found to be two inches greater than the other: the calf of this leg was an inch and a half larger than the right.

In the early stage of the preceding case, much speculation was elicited as to the pathological condition of the limb. The general conclusion was, that the femoral vein was inflamed; and of the correctness of this conclusion, the continuance of the enlargement, the soreness and hardness of the limb, with the fulness of the lower veins of the leg, leave now no further doubt. This, then, is another example of phlebitis in a vessel remote from the primary injury; but the inflammation having been limited to the adhesive stage, in accordance with the views before stated, no secondary abscesses resulted from it, and the disease did not extend to the capillary veins in any part of the system.

The symptoms, in the progress of the following case, I am disposed to attribute to the ligatures applied to the superficial jugular, and to this mild form of phlebitis thus induced.

Case XIII. In extirpating a large encysted tumour from the neck of a Welshman of temperate habits, good constitution, and about 26

years old, Dr. Mott was obliged to divide the superficial jugular vein. The operation was performed at the New York Hospital April 15, 1833. The vessel was secured by two threads, and divided between them. The operation was not a severe one, and no other vessel required to be secured. The integuments, after the removal of the tumour, were drawn together by interrupted sutures and adhesive straps, and the wound covered with lint, a compress, and roller. The patient remained comfortable for ten or twelve hours; his face then began to swell, and the neck was soon as large as before the operation; and before daylight on the following morning the swelling was so great as in some measure to impede respiration. At the end of twenty-four hours, the patient being under considerable excitement, the whole of the dressings were removed, and the edges of the wound slightly opened. About half an ounce only of serum escaped. There had been no hemorrhage, or extravasation of blood. The swelling was hard, and with a blush of redness on the surface, as if from approaching erysipelas. He was bled freely: a spirit wash, afterwards changed to a poultice, was applied to the neck; and internally he took half an ounce of the following mixture every hour, viz: aq. ammoniæ acetat. ℥viij.; tart. ant. gr. ii.; tinct. opii acetat. ʒi. M. A tent of lint was placed between the lips of the wound, so as to allow the serum to flow out freely, and a rigid antiphlogistic diet was enjoined.

On the following night he rested well; the tumefaction already began to subside. Some slight degree of erysipelatous inflammation lingered about the wound for three or four days longer, and then disappeared. On the 21st no unnatural fulness was observable, and on the 29th he was discharged cured.

The threatenings of erysipelas were here not sufficient to account for the sudden tumefaction; and it is worthy of remark that this disease is often found in connexion with phlebitis. In truth there appears to be some intimate relation between the two, but the nature and extent of this have not yet been determined. We have seen that erysipelas may give rise to phlebitis in its most alarming form; and that phlebitis, especially among the superficial veins, may be mistaken for phlegmonous erysipelas, and treated and described as such.

Etiology.—My object in commencing this paper having been rather to investigate the pathology, than to attempt an elaborate essay on the subject under consideration, I may be excused, I trust, from entering at present into a minute analysis of the causes, symptoms, and other details connected with these affections, the greater part of which may be gathered from the cases already given.

With respect to those secondary diseases arising after injuries, but

not connected with phlebitis, their pathology, symptoms and treatment, should be studied in connexion with the diseases of the individual organs secondarily involved. They are, in fact, the phlegmasiæ and specific disorders of these several organs, complicated with an external disturbance.

It is difficult to say in what class of patients traumatic phlebitis, and its train of secondary disorders, are most likely to be manifested. They are known to occur as well in the new born infant, and the adult previously in good health, as in the aged, the infirm, and those prostrated by long continued disease or vitiated habit. Breschet has alluded to cases, some on his own authority, others on that of Meckel and Osiander, in which secondary abscesses, &c. were found in connexion with phlebitis, excited in all probability by an improper mode of applying the ligature to the umbilical cord.* It is even questionable how far a vitiated atmosphere is connected with their developement. The majority of cases have probably been observed within the

* "Amidst a great number of post-mortem examinations of infants that had died after a few days of existence," says he, "I have not unfrequently noticed among the organic lesions, inflammation of the umbilical vein extending from the navel to the liver; inflammation in the tissue of this organ, and finally in the inferior cava. Did this phlebitis, which in some cases appeared to have been the sole cause of death, depend on inflammation and suppuration of the umbilical cord at its insertion in the abdomen and on the mode of applying the ligature, or upon some other cause? This I am unable to answer. I am sure I have seen inflammation and suppuration of the umbilicus frequently result from constriction of the cord too near the body. We know that at a little distance from the abdomen the cord has an appearance distinct from what it offers at two or three inches from its insertion. Tied too near, the compression bears upon a cutaneous surface, sensible and frequently susceptible to be inflamed, while at a greater distance the cord is transparent, soft, and of a structure, in appearance, different from what it presents near the abdomen. This inflammation with redness, suppuration, the formation of false membranes, within the umbilical vein, the vena cava, the liver, the peritoneum, has been pointed out before me by several observers; but they have only seen a few times these accidents of which I have been a frequent witness. Meckel has seen in an infant almost immediately after birth, the occurrence of vomiting, colic, diarrhœa, jaundice, fever, and various nervous phenomena. He died on the tenth day after birth, and at the examination of the body, the peritoneum was found inflamed, and purulent effusion into the abdominal cavity. The branches of the vena portæ, and especially those of the umbilical vein, were very much tumefied, and their walls thickened; those of the umbilical vein and its first branches in the liver were coated with false membrane very adherent. Osiander has made known an analogous fact; the umbilical vein from the navel to the liver was full of yellow pus, and upon the body of another infant seven days old, Meckel discovered traces of peritonitis, the umbilical vein much inflamed, and its walls coated internally with pus, and perforated by little ulcerations."—*Dictionnaire de Medecine, Vol. xvi., p.* 400, *article Phlebite.*

wards of Hospitals, but this remark will apply to almost any other form of surgical disease. Still there may be something in an Hospital atmosphere likely to induce them in the same way, perhaps, as such an atmosphere tends to the developement and spread of erysipelas. But we must look rather to the nature and condition of the parts primarily injured, than to the habits of the patient; to his age, or to external circumstances, for the causes predisposing to these affections. And since we have seen that inflammation of the veins lies at the root of all of them, we are naturally led to think that injuries and operations involving these vessels, are more likely than any others to induce them. By referring to the cases on record, such will be found to be the fact.

John Hunter appears to have been the first, at least among the English writers, to point out some of the striking peculiarities of venous inflammation; but his paper on this subject did not lead at once to much practical purpose; for we find that Everard Home almost immediately afterwards recommends the application of ligatures to varicose veins for the cure of obstinate ulcers; a practice which was followed in many cases with the most disastrous results.* It may fairly be allowed that Hunter's paper on phlebitis, was the first step, and the unfortunate results of Home's practice the second, leading to the true pathology of secondary abscess. The two apparently distinct forms of disease were, nevertheless, not grouped together and treated as parts of one, until within a very little time; and the credit of demonstrating the connexion may be acceded to Arnott of England and to Cruveilhier and Dance of France.†

Symptomatology.—The period at which phlebitis may arise after a primary injury, is altogether indefinite; in some cases appearing to commence at once, and proceeding to a fatal termination in four or five days; in others not showing itself until the patient has been reduced by several weeks' or even months' illness. After it has once set in, however, unless it becomes circumscribed or limited to the adhesive stage, its progress is usually very rapid. The following is Arnott's summary of the symptoms of the secondary affections:

"Great restlessness and anxiety, prostration of strength and depression of spirits, sense of weight at the precordia, frequent sighing or rather moaning, with paroxysms of oppressed and hurried breathing, the patient at the same time being unable to refer his sufferings to any specific source. The common

* For one of the earliest of these unfortunate cases on record, see a paper by Mr. Oldknow in the Edinburgh Med. and Surg. Journal, Vol. V.

† The pathway was pretty well prepared for these writers by the labours of Abernethy, Hodgson, Travers, Davis, Carmichael, Rose and others.

symptoms of fever are present, the pulse is rapid, reaching sometimes to 130 or 140 in a minute, but is in other respects extremely variable. There is often sickness and violent vomiting, especially of bilious matter. Frequent and severe rigors almost invariably occur, sometimes to the number of three or four in the course of a few hours. The general irritability and deep anxiety of countenance increase, the manner is quick, and the look occasionally wild and distracted. When left to himself, the patient is apt to mutter incoherently, but on being directly addressed, is found clear and collected. The features are pinched, and the skin of the whole body becomes of a sallow, or even yellow colour.

"Under symptoms of increasing debility, and at a time when the local affection may appear to be in a great degree subsiding, secondary inflammations of violent character, and quickly terminating in effusion of pus or lymph, very frequently take place in situations remote from the original injury: the cellular substance, the joints and the eye have been affected, but it is more particularly under a rapidly developed attack of inflammation of the viscera of the chest that the fatal issue usually occurs. Whether this is observed or not, death is always preceded by symptoms of extreme exhaustion, such as those of a rapid feeble pulse, dry, brown or black tongue, teeth and lips covered with sordes, haggard countenance, low delirium, &c."*

Diagnosis.—The diagnosis of these affections, especially in their early stage, and when the primary phlebitis has not arisen in a superficial vein, is unsatisfactory and obscure. They may be mistaken for common inflammatory fever, depending solely in the original wound, especially when the secondary inflammations, as they often do, assume a latent form. Thus, when the lungs become involved, the disease then may advance to an alarming extent without any manifest external symptoms; without pain, without cough, and with respiration by no means embarrassed in proportion to the extent of the malady. Nasse states that even the stethoscope is of no service in assisting our diagnosis in such cases.

They may be mistaken for local inflammations in distant parts in no way connected with the primary lesion. Cases are occasionally recorded of partial success after operations, but finally terminating fatally from accidental attacks of pneumonia, &c. I suspect that if many of these had been more closely observed, the reporters of them would have found a relation between the operation and the consecutive malady, closer than they imagined. Again, in persons of intemperate habits, when the symptoms set in soon after the receipt of injury, they may be mistaken for the approach of delirium tremens. Errors of this sort I am disposed to think not at all uncommon; and in most instances, likely to be of injury to the patient; for the treatment usually found most successful in the latter, although often employed

* Loco Citat. p. 52.

in the first stages of phlebitis, is the worst that could be devised. Finally, they may advance so insidiously as not to be observed until the secondary depositions about the joints, beneath the integuments, or in some internal part, declare the nature of the case; or until our observation of their existence is too late to be of service. But, as a general rule, when, after an injury or operation, we find the constitutional symptoms of too grave a nature to be accounted for, either by the known habits of the patient, by the extent or nature of the local injury, or by both of these together; and especially if the symptoms are rapidly assuming a typhoid character, with rapid feeble pulse, sallow skin, and low delirium, we should suspect the existence of traumatic phlebitis, with its approaching train of consequences, and form our indications accordingly.

Prophylactic Measures.—Aware, then, of the nature of the diseases under consideration; aware of the circumstances under which they are most likely to arise; of their danger, and of the difficulty of distinguishing them; it becomes the surgeon, before attempting any important operation, to consider not only the expediency of the measure for the cure of an existing disease, but also what is to be its effect upon the system; what are the diseases most likely to be afterwards developed; and among the rest, traumatic phlebitis, and the means best calculated for avoiding it, should claim his most serious attention.

With this view, when obliged to operate on parts involving large veins, he should endeavour, if possible, to let his incisions be made where such vessels are in a sound condition, and where the tissues surrounding them are also healthy; for healthy veins, when cut, usually close by the adhesive process, but when diseased the case is otherwise; and when they happen to be divided in the neighbourhood of abscesses or morbid tissues, the acrid and decomposing fluids there, entering the divided vessels, may excite inflammation on their inner surface. Such, probably, was the cause of phlebitis in Case V., in which there was a burrowing fœtid abscess extending up the stump towards the groin, immediately in contact with the vein.

The next precaution against the occurrence of phlebitis, is to avoid, as far as possible, the application of ligatures to veins. There are, it is true, many cases in which the occurrence of phlebitis is not so much to be dreaded after tying the vein, as other accidents that may ensue from leaving the vessel open. In wounds of the jugular or subclavian vein, for instance, the admission of air into the open vessel, and thence on to the heart, might cause immediate death. Some other of the larger veins, too, may occasionally require a ligature to prevent a regurgitation of blood and arrest an existing hemorrhage. Finally,

it is questionable how far the preceding caution should govern us in cases where, although the vein is healthy, there is nevertheless purulent deposition, or a morbid state of parts immediately surrounding it. Under such circumstances perhaps the chance of phlebitis would be less from the application of the ligature than from the admission of morbid secretions within the open extremity of the vessel.

Cruveilhier is of opinion that phlebitis and its train of consequences are peculiarly apt to arise after operations involving the bones; and hence, that in such operations, more than usual precaution should be taken against these. His views on this point, however, are rather from theory than from observation; but be this as it may, in amputations, or other operations requiring the section of bone, we should so manage as to have a sufficient covering of soft parts, in order to provide, as far as possible, against inflammation in the bones themselves, or within their medullary cavities.

Treatment.—With respect to the treatment of secondary abscesses, and the inflammations, either in the viscera or elsewhere, connected with them, I have little or nothing to offer; for when these symptoms are once fairly established, the case is usually beyond the control of art; but the phlebitis that precedes them, if recognised in its early stage, may often be overcome.

We have seen that, after injuries, phlebitis may ensue at very different periods, and under very different states of the general system. Hence, although we have to meet it as an inflammatory affection, our indications for the treatment of it cannot always be the same. Occurring, as it often does, in cases where the system is worn out with profuse suppuration, or with the protracted irritation of severe external injury, and where the general reaction is out of all proportion to the extent and severity of the phlebitis, the chance of successful treatment is but trifling from the onset. Our indications here are rather to support the general system, to prevent local determinations towards the viscera, to preserve the functions of exhalation and secretion from the skin, from the lungs, the kidneys; in a word, rather to maintain in healthy action all those emunctories by which the blood can be preserved in its natural condition, and through which purulent matter, if it does enter the circulation, may be eliminated, than to attempt to subdue the inflammation of the veins by depletion.

But where the disease occurs immediately after the receipt of injury, or while general reaction yet runs high, and the vigour of the system is comparatively unbroken, our therapeutic measures must be more prompt and energetic. Under these conditions our indications are:—

1*st.* To resolve the venous inflammation; or, failing in this, to arrest it in its adhesive stage.

2*nd.* To moderate and equalize the circulation, so as to prevent an undue determination of blood to any of the important viscera.

3*d.* To remove every source of irritation; to allay nervous irritability; and after subduing or arresting the phlebitis, to support the strength, and restore all the functions of exhalation and secretion.

The therapeutic means for fulfilling these indications are but few, and every thing depends upon their timely application. So soon as we have reasonable evidence of approaching phlebitis, for the purpose of resolving or of arresting it in its adhesive stage, we should resort at once to free depletion, abstracting at the first sufficient blood to produce a permanent effect upon the circulation; and should reaction occur, with remaining symptoms of phlebitis, in a few hours after the first bleeding, we should resort to it again; or if the state of the system contra-indicate general blood-letting, we should resort to local depletion, to purgatives, to antimonial diaphoretics, and to such topical applications over the region of the inflamed vessels as are best calculated to arrest the progress of disease in the part, as poultices, anodyne and evaporating lotions; or even the application of a blister, where we have reason to believe that, as a revulsive agent, it may arrest the inflammation in the vein beneath it. The life of the patient often depends upon prompt and efficient action at the onset; a few days, sometimes even a few hours, will be sufficient for the formation of pus within the vessels and the developement of capillary phlebitis. Our depleting measures, therefore, should be carried to their ultimate before these conditions have time to ensue, and before the symptoms of the case assume an adynamic form.

The principal and almost only risk in treating the case thus energetically at first is, the possibility of having mistaken it for the nervous symptoms preceding an attack of delirium tremens. But the early hallucinations, the timorous and brooding look, the quivering tongue and trembling hand of this latter, are not among the earliest symptoms of phlebitis. The absence of these symptoms, the good effects of the first free bleeding, the inflammatory state of the blood itself, the inefficiency or ill-effects of opiates, and, above all, a knowledge of the habits of the patient, may be sufficient to guard us against this error. Yet should doubts still exist, it is better to resort to venesection than to trust to palliating measures; for the loss of blood in incipient attacks of delirium tremens is not often injurious, and when compared with the danger of neglected phlebitis, it is not to be held in consideration.

The chance of confounding this disease with the symptoms of common inflammatory fever depending on the local injury, or with distant inflammation altogether independent of the external wound, should have little or no influence on our treatment; the indications for overcoming these being nearly the same as those first called for in phlebitis. Owing to the occasional obscurity of the early symptoms, I am persuaded phlebitis is often treated as common inflammatory fever; and when the depletion is sufficiently active to overcome it, the case is passed over without note or comment. The error in this way is of some consequence, inasmuch as it prevents us from associating the unfortunate cases with the others, and from studying the earliest signs of the disease with accuracy.

The symptoms of the disease arrested or suspended by the means already stated, in order to provide against reaction and the recurrence of inflammatory signs, it becomes requisite to take such measures as will fulfil the second indication, viz: to moderate and equalize the circulation so as to prevent an undue determination of blood to any of the important viscera. The means for effecting these objects, of course must vary with the peculiarities of individual cases. Should the encephalon be the part most likely to suffer, local depletion, by leeching or cupping, cooling or evaporating lotions, counter-irritation, antimonials, and purgative medicine, may be advantageously employed. Should the viscera of the thorax be peculiarly exposed, with the exception of cooling or evaporating lotions, the same measures may be tried, and with the addition of opiates and other anodynes. Should any of the abdominal viscera be threatened with disturbance, the treatment here again must be such as would be demanded under ordinary circumstances. The peculiar irritability of the stomach, so often observed among the secondary symptoms, and which, in the case of James Hall, was met by porter and lime-water, might perhaps be more happily restrained by abstinence, and by leeches, sinapisms, or blisters to the epigastrium. The regimen of the patient should be of a character best adapted for carrying out the several indications. But the patient is not usually apt to harm himself by eating. There is an apathy towards food; and when the stomach is not goaded by tonics and excitants, there is no disposition to unnecessary indulgence in eating.

The inflammation of the veins now fairly under control, and the derangement in the circulation moderated, the chance of recurrence or extension of phlebitis is gradually lessened. Still, so long as the local injury that first gave rise to it exists, the more so if the wound be in the neighbourhood of large vessels and present an extensive

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suppurating surface, the danger of the secondary results is not entirely obviated. And it is at this stage we are to bear in mind the particulars of our other indication, viz: to remove every source of irritation, to allay nervous irritability, to support the strength and restore all the functions of exhalation and secretion. With these views we are to attend to the state of the external wound itself; and when the energies of the system are observed to flag under profuse discharges or long continued irritation, we must resort to a more generous diet, to anodyne and tonic medicines.

When phlebitis presents itself in superficial veins, especially if circumscribed, it may advance to the suppurating stage, and spread slowly from point to point, presenting a chain of abscesses, and producing at first no great degree of constitutional disturbance. In such cases the best plan is to trust to local depletion, evaporating lotions, poultices, and, if observed early enough, the application of a blister, with spare diet, and such medicines only as are necessary to maintain the healthy functions of the system; but as soon as matter can be detected along the course of the diseased vessels, the abscesses should be freely opened. With respect to the expediency of pressure upon the limb for preventing the advance of venous inflammation towards the heart, as recommended by Hunter, some doubts may be entertained. It was first advised under an erroneous impression respecting the mode in which phlebitis proves fatal, and the practice itself would be a source of irritation to the patient.

But too often, in spite of all our efforts, the primary inflammation will advance, the secondary symptoms manifest themselves, and, as before stated, recovery at this period of the disease is scarcely to be expected. Still, if the secondary disturbance is yet in its inflammatory form, and without the purulent effusion, some faint hope may be indulged by following out the indications already laid down in relation to the severer forms of secondary disorder. As to tonics and stimulants, if they are ever useful in these secondary diseases at all, it is at the time when the general powers begin to fail, and no further hope is left in following out the rational indications without them. Yet in some of the cases that have fallen under my observation, the tonic and stimulating plan has been followed from the first; a plan, I am sure, conceived only in ignorance of the real nature of the disorder.

New York, September, 1837.

ART. IV. *Remarks on Stammering.* By EDWARD WARREN, M. D., of Boston, Massachusetts.

A physician who has had an opportunity of observing a chronic disease in his own person, may naturally be supposed better qualified to write upon that disease, than one whose attention has only been called to the matter he treats upon, in the common routine of practice. Lancisi, Corvisart, Bayle, Laennec, Floyer and Bree, were victims of the diseases upon which they have given us so much information. This consideration has led me to suppose I might perform a useful service in committing to paper some remarks, the result of my experience, upon the subject of Psellismus.

The obscurity which rests upon it, and the vague and conjectural manner in which most medical writers are content to treat it, is matter of much surprise. The hesitation and doubt, on the one hand, with which professional writers allude to it; and, on the other hand, the confidence with which the inventors of systems for its cure set forth their claims, are equally remarkable. It seems evident that the subject has obtained very little attention from physicians.

A desire is constantly expressed by reviewers and journalists, as well as by the profession at large, that persons who undertake to write upon impediments of speech, upon the organs of articulation, or upon the art of speaking, would throw more light upon the mechanism of the human voice. It is supposed that if this mechanism were well understood, the manner of correcting its defects would be rendered easy.

If our watch is out of order, if it will not keep time, if the hand will not move in accordance with the action of the spring, we must make ourselves acquainted with its intimate structure before we can rectify the defect.

This reasoning, but for one objection, would apply exactly to the human body—to the human voice. We must understand the machinery; we must know whether the defect is in the nerves, the arteries, the muscles, the skin, or the alimentary canal, before we can prescribe. There is only one thing wanting to make the analogy complete. This is, that however clearly we may make ourselves acquainted with the machinery, i. e. the anatomy and physiology of the human body, there is one thing we cannot understand. The spring is invisible—the manner in which it acts is unknown.

Whatever knowledge discoveries in anatomy and surgery may give us of the organs of speech, no light will be thrown upon the means of

remedying the impediment. Why? Simply because the organs may be perfect, and yet the speech defective. In the majority of stammerers there is no organic defect.

As well might we expect to cure an epileptic patient by explaining to him the nature of muscular power, informing him that the muscles are stimulated to contract through the medium of certain nerves; that these nerves may be traced to the spinal cord, and this to the brain. Here we have the whole machinery well known. Skin, muscle, bone, nerves, and blood-vessels, are all known; and, as far as we can see, are perfect. In ordinary cases, we will to move our hand, and our hand moves; and it does not move but by our will. The case with our patient is simply reversed; he wills to move his hand, and it does *not* move, or its motions are beyond his control.

It is the same with the stammerer. He wills to utter an articulate sound, but the sound does not come; *vox faucibus huesit.* In other cases an inarticulate sound is produced, the actions of the facial muscles and the jaw are irregular and spasmodic, producing distortion of the features, while the emission of sound not being in accordance with, and consequently not modulated by, the action of the muscles of articulation, may even become a howl.

If I am asked how it can be proved that there is no defect in the organs of speech of the stammerer, I answer, because if you place him in certain circumstances, his speech will become perfectly free. Organic defects are known by the constancy of their symptoms. It is a well known fact that most, if not all, stammerers, can sing with ease. Most of them can read poetry fluently. Some are entirely free from their impediment when by themselves. They can speak or read aloud for hours when they know no one hears them, without the slightest hesitation or catch in their voice. Perhaps they can read or speak with more fluency than those who have no impediment; for those who are led by this defect to pay great attention to the means of acquiring a free and faultless mode of speech, will, when free from it, be better speakers than those whose attention has never been called to the subject of elocution. It is a fact, though but little noticed, except by teachers of elocution and those who have been led to observe particularly the conversation of others, that perfectly easy and fluent speech is rare; at least among the male part of society. A stammerer who is perfectly cured will be a better speaker than is generally met with, for all the means for overcoming stammering are adapted to produce fluent and faultless speech.

If stammerers, then, can, under certain circumstances, speak thus fluently, does it not prove that there is no defect in the organs. Were

stammering produced by a defect in the organs of articulation and voice, the subject would continue to stammer under all circumstances. The mere removal from an occupied to an unoccupied apartment would make no difference; it could not restore parts that were deficient, nor remove parts that were redundant.

That there are defects of speech produced by organic disease, I am well aware; but in general these may be ascertained by inspection of the organs. Thus, the removal of the tongue, the loss of teeth, hare-lip, and, above all, fissure of the palate, may produce imperfect or inarticulate utterance of the worst kind. These causes, however, do not produce stammering.

If there is, therefore, no organic defect,—if the patient can speak freely when alone, and if the mere presence of another person causes him to stammer,—does it not prove that his impediment is owing solely to mental causes; that his is a mental affection?

Stammering, however, is a complicated affection. It originates in weakness of the nervous system—in irregular action of the nerves. Afterwards, the fear of stammering causes a person to stammer; the organs of speech soon acquire a depraved habit; the nerves also are habituated to irregular action, as in chorea, and the habit may become difficult to eradicate, even if the mental cause is removed. We have, therefore, mental and physical causes united, in every degree of complication.

The mental emotion increases the effect produced by the vicious habit of the organs, and this habit increases the mental emotion. Thus, these two causes are constantly acting on each other and aggravating the disease. Some persons never allow the fear of stammering to prevent the expression of their thoughts; but others acquire habits of silence, and of thinking so much before they speak, that they lose the power of translating their thoughts readily into tangible words, if I may use the expression, and hence the want of command of language is added to their other difficulties. An habitual stammerer of this kind, if suddenly relieved from his impediment, will find almost as much difficulty from this want of command of words as he did before from his defect of utterance. There is also another difficulty, which is, that his attention being always divided between the words he has to utter, and the consideration how he is to utter them, his ideas become confused, and very probably he forgets the latter part of his sentence before he has uttered the first. If mental embarrassment of any kind, if want of a perfect coolness and knowledge of what he is to say, will make a good public speaker stammer, it may be understood in how much greater degree it will operate to increase a habit of stammering.

I may allude to another thing also, which gives a singular appearance to the conversation of the stammerer, even when he appears to speak with ease. This is, that without being perfectly aware of it himself, he is constantly considering before he speaks, whether the words he means to employ are easy to articulate; and he is constantly in search of easy words. Hence, he makes use of odd and outrè expressions; and as no two words are perfectly synonymous, the words he substitutes for those which would more perfectly express his meaning, and which are chosen in haste, and for no other reason than easy utterance, often sound odd, or convey a meaning very different from what he wishes. Although he may see that this is the case, yet exhausted by the effort he has already made, he does not attempt to correct the impression he has communicated. In this way he may very readily obtain the character of an idiot or an imbecile.

I have spoken of stammering as the result of derangement of the nervous system. It is so often said to be produced by imitation, that some further remarks on this head may be necessary. I cannot pretend to bring the numerical system to my aid—I cannot exactly say how many out of a hundred stammerers are of the sanguine or the athletic temperament, but this I will affirm, that having had ample opportunity of observing numbers of persons thus affected, I believe an athletic, sanguine, or a phlegmatic stammerer to be very rare. The affection occurs in persons of extreme susceptibility, whose constitutions would readily make them the subjects of hysteria or chorea. This nervous susceptibility may be caused by sickness in childhood. This is the remote cause.

One exciting cause may be this, that persons who are thus susceptible may be so readily carried away by strong feelings, that in the hurry and earnestness to express their ideas, they crowd their words so rapidly upon each other as to produce stammering. They are constantly the subjects of those ardent emotions, that are occasional causes of stammering in good speakers. This is not a place for me to discuss the connexion between thought and words, otherwise I might prove that the time required for the articulation of a single word, is sufficient for a long train of thought to pass through the mind. Now, the earnest endeavour to express thoughts as rapidly as they are conceived, will produce stammering. This is what we often witness in persons who are not stammerers.

Fear is often an exciting cause of stammering. A child of the constitutional susceptibility spoken of above, may be made a stammerer by bad treatment. If he is in constant awe of a brutal parent or master, this is a sufficient cause. In regard to imitation as a cause,

I believe it to be comparatively rare. From the known tendency of chorea and hysteria to be extended by imitation, we might imagine this to be a more frequent cause than it actually is.

It is not my present purpose to write a detailed or a systematic treatise upon impediments of speech; I design, merely, to offer a few hints upon a subject which appears to have been little investigated by medical men, and which is certainly very little understood.

An extract from a letter of Richard Cull, quoted in the Medico-Chirurgical Review, for October, 1836, may serve to give an idea of the present state of medical knowledge on this subject.

"It would be tedious to enumerate the various methods that ignorance, empiricism and imposture have, at various times, proposed for the cure of impediments of speech. From the farmer in Joe Miller, who made his son sing 'Daddy your house is on fire,' down to Mrs. Leigh, the lady in New York, who forces her disciples to keep the tongue against the teeth uninterruptedly for three days, the plans have been innumerable, the proposers confident, and the success, of course, immense. Yet, singular as it would seem, although each is perfectly successful, the one that follows is advanced expressly because no such thing as success can be obtained. How this paradoxical state of things may be explained we leave to others to determine."

Of Mrs. Leigh's system, and the above amusing misrepresentation of it, I will speak hereafter.

There are two different species of stammering, which I shall describe. The first is that in which the organs of articulation, the lips and tongue are concerned. In the second, the organs are not in fault, but the voice is wanting. The effort to speak is made, the lips and tongue move, but the voice will not come. A person who witnesses this attempt, will believe that the individual has spoken, and ask him to repeat what he has said. The two kinds are frequently united. Indeed, when the voice is not at the command of the patient, the violent efforts he makes to speak will produce convulsive motions of the features and distortion of the countenance. A habit will be formed by the nerves and muscles, and these irregular motions will afterward take place, even when the voice is under command. A paroxysm of stammering is truly formidable to witness. The countenance of the patient is horribly distorted, inarticulate and dissonant sounds issue from his mouth; he will tear his hair, stamp as if with rage, and practise all the gestures of a madman. Even in less violent cases, the whole nervous system is in intense agitation, every nerve in his body, to the ends of his fingers and his toes, seems to him to vibrate, like the strings of a harp, producing a sensation like that caused by the filing of a saw, and he feels a sense of suffocation at his chest. I may mention, incidently, that stammerers are said, in general, to have

narrow chests, and that their lungs have not free play. My experience as far as it goes, confirms this. A narrow chest also, is said to be one of the characteristics of the nervous temperament. I have seen some athletic stammerers, at least one or two, but the most I have seen belong to the nervous class.

The first species is what is properly called stammering, and consists in the simple repetition of the same sound over and over, attended with convulsive motions of the lips, tongue, and muscles of the face. This is infinitely more disagreeable, and apparently worse than the other. It is, however, much more readily cured. The second species is more purely dependent upon an affection of the mind than the first. I think it in general, if not always, is the result of the first species. The fear of stammering produces that embarrassment which causes the voice to fail, either by closing the glottis, or by causing the patient to inhale when he ought to exhale.

It is well known that singers, when embarrassed, are incapable of uttering a single note; their voice is gone. In the same manner, a speaker before a public assembly sometimes loses his voice; and the more anxious he is to speak—the greater exertion he makes—the more totally unable is he to bring forth a sound. The more powerful passions, also, such as grief, fear, anger, and even excessive joy, completely take away the power of utterance. They not only, in many cases, deprive the subject, of the power of distinct articulation, but even of the ability to produce a sound: the vocal passage is spasmodically closed. Thus a person is said to be choked with rage. The same passions, in a less degree, will produce the first species of stammering in persons whose ordinary utterance is fluent.

I may be asked, if singers are thus subject to loss of voice, why does not the same thing oftener occur in regard to speech? I answer, because singing is merely an accomplishment; it is acquired by study and effort; whereas speech is in general so early learnt, that it may be almost considered spontaneous. Men talk without previously considering in what manner they are to move their lips, where the voice is to come from, how the sound is to be produced, or what organs are to be set in motion. A man wills to move his arm, his arm moves; he wills to speak, and the words are uttered: one is as little the object of thought as the other. I may here remark, too, a curious fact; that it is impossible for a stammerer to stammer by design. Desire him to stammer; let him make the attempt, and he will speak as freely as any one. Of course I do not refer to those stammerers of the first species, the vicious habit of whose organs is so confirmed that

they can never articulate without stammering. This, however, is a rare case.

But let us alter the natural order of things. Suppose we could make speech as much a matter of education as singing. Let us take a young person of considerable susceptibility; impress upon his mind the idea that speech is a subject that requires great thought; that it is of vast importance for him to educate his voice and his organs of articulation; and very probably when you introduce him into company, his voice will utterly fail. I have already said that I believe an impediment of the second kind to be the sequel of the first. A child is afflicted with stammering, and the constant and unsuccessful efforts made to overcome the defect, produce so powerful an effect on his mind, that whenever he attempts to speak, the fear of stammering, the constant thought as to how he is to speak, the constant dread of failure, deprives him of voice. Parents may learn from this the extreme necessity which exists for caution in subjecting a child who stammers to a variety of methods for its relief. No trial should be made at home. An experienced person should be selected to make the trial. I mean the person, if any such can be found, who has had the greatest experience in the treatment of defects of speech: and if none such can be found, or if, after a reasonable length of time, the trial fails, none other should ever be made. And this caution should be kept in mind: that in subjecting the child to a course of treatment for the removal of the defect, you fix the matter so much in his mind, that if not relieved, it will be aggravated and confirmed.

But to return to the analogy of singing—we have then only to make speech as much a matter of education, as much an accomplishment as singing, and the performers will be as liable to loss of voice, when embarrassed, as singers. Of course there would be the same difference between the bold and confident and the diffident and reserved, in the one case as in the other. Many persons may find it difficult to conceive that they could, under any circumstances, be thus deprived of the power of speech. But these same bold speakers, if possessed of musical powers, would be equally bold singers.

It is well known that a single idea, constantly dwelt upon, produces madness: in like manner, the idea of the importance of correcting a bad habit of speech may be carried so far as to become a monomania. Thelwall, who has given, I think, a very accurate description of the varieties of impediments of speech, says that there are some forms which bear a close relation to mental derangement. This remark may be still further strengthened by the instances of those defects of articulation produced by blows on the head.

I have made a reference to Mr. Thelwall's letter, and also a quotation from Mr. Cull's. The latter alludes to the numerous methods of cure which have been represented by their authors as completely successful, and all of which seem to have failed. From the knowledge of the subject that Mr. Thelwall exhibits, I have no doubt of his ability in the cure of impediments of speech. I believe that there are now many persons who have devoted themselves to the observation and treatment of this defect, who are capable of curing it. One principal reason that many of the cures are not permanent is, that the teachers require too little time. A habit that has been confirmed by years cannot be eradicated in a few weeks. The best musical teachers now inform their pupils that the art of singing requires years of practice and instruction. In the same manner does it require years of practice under the direction of a competent instructer, for a stammerer to acquire the free use of speech. The same thing that occurs in other chronic diseases takes place in this. A patient applies to us for the cure of distorted spine. He is told that he cannot be cured under a year. After pursuing the proper course for three months, he finds himself very much benefitted. Having now acquired the habit of using the various machines with facility, and convinced that the means prescribed will complete his cure, he requests our permission to return into the country. The country air will be beneficial to him; he can carry his weights, his pulleys, his triangle, and all his other apparatus with him. He arrives at home, and amid the excitement of meeting his friends, and the exhilaration produced by their congratulations on his amendment, his exercises are neglected. A few days or a few weeks can make no difference; time passes, and the longer he neglects it the greater is his reluctance to resume the wearisome course he formerly pursued. By and by, he finds the disease once more making progress, and now very probably he loses confidence in his surgeon, and in the course he formerly thought so successful. It is the same in other chronic diseases. What physician is there who does not feel that the moment his inspection is removed, the rules he has laid down will probably be pursued with less energy than before? But ought this to bring discredit upon the physician, or upon the means employed? Certainly not.

The cure of impediments of speech is now much better understood, by those who have devoted themselves to their treatment, than it was twenty years ago, at least in this country. Mr. Thelwall's letter, and his Results of Experience, were published in London in 1810 and 1814, and although there can be no doubt that he performed the cures he describes, yet his book throws no light on the subject. Having

much experience of the methods formerly resorted to, and which were in fact merely experimental, I can affirm that many of them were more calculated to confirm than to eradicate the defect.

Despite of all the ridicule that has been cast upon Mrs. Leigh's system, by those who knew nothing about it, I believe the inventor of this system deserves the credit of the improvement. As it was at first taught empirically, the pupils being obliged to take an oath not to reveal the secret, many amusing misconceptions arose in regard to it; the pupils often purposely misleading those who subjected them to troublesome inquiries. Hence arose the brilliant discovery that was published in our daily papers at the time when it was taught in Boston by Mr. Wilson. I mean the discovery that the system consisted in obliging the pupils to keep their tongue in contact with their teeth three days in succession.

Mrs. Leigh's system exceeded all others in the marvellous rapidity with which the cures were wrought, and it was this very incredible rapidity that brought ridicule upon the system. Any thing that gives a system the appearance of the marvellous, is sufficient, in our day, to cause its rejection. Yet the phenomena of the human mind are no better understood than they were formerly. There is a practical disbelief with regard to the existence of mind, but still its action upon the body cannot be at all understood. We are every now and then meeting with instances of this action of the mind or the imagination upon the system which are, to all appearance, miraculous. But, to put the power of the imagination out of the question for the present, the apparent miraculousness of these cures disappears when the system is understood.

A deaf person may be made to hear instantaneously by giving him an ear trumpet; in like manner a person may be made to talk freely by telling him how to talk. I am well acquainted with a gentleman who formerly stammered as much as an individual could do, and in the way most disagreeable to witness. He was cured in half an hour. He required, it is true, superintendence for some time afterwards, but he was always a rapid speaker; and though he formerly stammered most furiously with lip and tongue, his defect never made him refrain from speaking. The consequence was, that the moment he was put in possession of a mode of speaking freely, his words flowed forth with the utmost volubility. Though it is now some years since his cure, his impediment has never returned; and neither in private or in company can any difficulty be observed in his utterance. Other patients were cured as rapidly, and in some cases the cure was permanent.

In many cases, however, the patient on his return home gradually relapsed into his former condition.

The* inventor of Mrs. Leigh's system, (for Mrs. Leigh was not the inventor) a medical gentleman of high talents and very strong natural powers, had a daughter afflicted with stammering. After attentive observation and long study of her case, he succeeded in hitting upon a method which effected a cure. This method was imparted to the young lady's instructress, Mrs. Leigh, an Englishwoman, in order that it might be pursued during school hours.

The inventor soon determined to extend its benefits to others. Finding Mrs. Leigh enter into the scheme with zeal and ability, he placed her at the head of the institution; and fearful of the reproach of empiricism, he chose it should pass under her name. Pupils soon flocked to them, they acquired experience and brought their system to perfection. The marvellous rapidity of the cures brought them immense numbers. It would not have seemed possible that what appears to be a rare defect should have proved to be shared by so many. They soon found it expedient to qualify other teachers, who established themselves in all parts of the union. Mr. Wilson, a very intelligent young man of unwearied industry, taught the system some time in Boston. The results here, as in New York, appeared wonderful; and if they were not permanent, the fault was in the short time allowed for the cure. The time Mr. Wilson fixed was six weeks, but many of the pupils believing themselves cured, remained not half that time.

Two great mistakes were undoubtedly committed. The first was, in attempting to make permanent cures in so short a time. The second was, in attempting to qualify so many teachers. Most of them, probably, believed that the possession of the secret was all that was requisite. They were not aware that years of observation and experience, a knowledge of elocution, a knowledge of the human mind and of human nature, were requisite to make them successful teachers. It is the same with this as with other diseases. If we had certain remedies for certain diseases—if for instance a certain dose of calomel would cure every case of fever, the science of medicine would be perfectly simple, and might be practised by a child. But the skilful physician adapts his remedies to the particular constitution of his patient, and to the greater or less developement of particular symptoms. It is symptoms he is called to combat, and the symptoms in no two cases are the same. Now the power to do this is only to be

* Dr. Christopher C. Yates, of New York.

acquired by attentive observation and experience. This remark applies with still greater force to impediments of speech. In the treatment of no other complaint is experience more essential than in this. I need not mention also, that unwearied industry and patience are requisite on the part of the teacher as well as on that of the pupil. This fact may afford some light as to the reason why a method successful in the hands of the inventor generally fails in the hands of others. No methods invented for the cure of stammering, have met with general success, because such methods are incommunicable, at least by writing. A successful teacher may be able to communicate his art to another of sufficient intelligence and industry, but it cannot be done at once, any more than a man ignorant of music can become qualified by a single lesson to teach music.

The gentleman who invented Mrs. Leigh's system was qualified for the purpose as few men can be. Not destitute of sufficient learning, he has yet little reliance on books, and depends upon observation, principally, for his sources of knowledge. Possessed of a tall and commanding figure, with an air of confidence and decision, he inspires his pupil at once with perfect confidence. He tells his patient *how* to speak; he tells him he *can* speak; and he *does* speak.

The effect of imparting their method to so many teachers, was soon apparent. The cures obtained were so numerous and wonderful, and attended with so much profit to the teachers, that multitudes of other persons soon set up to cure impediments of speech. It is not surprising, therefore, that the system soon fell into disrepute.

The inventor, at first, gave directions merely for the position of the tongue, but afterwards he made great improvement in his treatment. The suppression of the voice he believed to be caused by a spasmodic closure of the glottis, the same cause to which Dr. Arnott ascribes stammering.* The patient, in his violent and ill directed efforts to speak, closes the glottis, and hence the sound cannot escape. He makes motions with his lips and tongue, but the more violent his efforts, the more firmly is the glottis closed. The object of first importance, therefore, is to get the glottis open, the next is to keep it so.

The foundation of all rational systems taught for the relief of stammering, are based upon two well known facts. The first is, that slowness and deliberation are requisite for perfect speech. The second fact is, that stammerers can sing with great facility. In singing

* Dr. Arnott, in his work on physics, considers stammering in every case produced by spasmodic closure of the glottis. Dr. Yates holds the same opinion; and it is remarkable if, as I believe to be the case, the opinion of each was formed from his own observation and was original with both.

the sound is continued from syllable to syllable, and word to word, more than in common speech; there is less emphasis, less interruption of sound. Hints have been taken from this fact, and various methods invented to prolong the sound in this manner, and prevent its interruption until the speaker arrives at the end of his sentence. So long as the stammerer can prolong the sound in this way, he can speak with ease; his great difficulty is in the commencement of a sentence and in avoiding interruption in breaking the sound into syllables.

An attention to the patient's manner of inspiration is, therefore, of importance. Instructions are given for inhaling with deliberation, and for husbanding the breath, so as to let it out no faster than is requisite for the formation of sound, and without panting or any sudden or spasmodic effort. Directions must also be given as to the particular manner in which each consonant is pronounced, and for the articulation of any particular words or sounds which are difficult to the pupil. These must be taught, and any vicious pronunciation corrected by precept and example. For this purpose, an acquaintance with the principles of elocution, and with elementary sounds, is requisite. It is by imitation only that the proper manner of uttering them is to be acquired, and the organs habituated to it.

Mr. King, the teacher of elocution, who gave lessons in Boston in 1835, for the cure of stammering, was well qualified in this respect from his knowledge of elocution, in which he was an able instructer. This, and his experience in the treatement of impediments of speech, rendered him a very competent teacher. I believe his method to be adequate to the cure, if pursued with sufficient attention and perseverance, and for sufficient time. Mr. King's system requires more labour on the part both of teacher and pupil than Mrs. Leigh's. He aims less at producing rapid and striking results. But he puts into the hands of his pupils certain rules, which, when they have attained proficiency in them by imitation and practice, will enable them to cure themselves with perfect certainty, if they are not wanting in perseverance. In this respect, the system is more tangible than Mrs. Leigh's. It is more capable of being continued after the pupil is deprived of the aid and superintendence of the teacher. Mr. King assigned one year as the shortest time in which the defect can be eradicated. He did not, however, require that the pupil should remain all this time under his inspection.

According to Mrs. Leigh's system, the pupil was kept in the house of the instructer, so as to be under his eye during nearly the whole time; so that he was made conversant with the method in less time than by Mr. King's course, who gave lessons of one hour a day. Now

it will be much better for the pupil, especially if an adult, to receive instruction for an hour a day for a year, than to be with the instructer the whole time for a fortnight. For children, the best plan would be for them to be with the instructer all the time during two, four, or six weeks, according to circumstances, and afterwards receive an hour's instruction daily for a year. Of course it is not to be expected that this hour daily will be sufficient; the pupil must practice by himself several hours, and he will do this more regularly while he continues to take lessons, and will also avoid errors in his practice which an individual, whether child or adult, will insensibly fall into, if left entirely to himself.

Dr. M'Cormac, of Edinburgh, published a treatise on the cure of stammering in 1828. The following quotation, from his preface, appears on his title page.

"I can assure all, that by the most ordinary attention to the following pages, they may of themselves remove, with the utmost ease and facility, and in a very short space of time, the most inveterate and confirmed habits of stuttering, no matter of how many years duration or when contracted."

This is being pretty confident. Dr. M'Cormac's observations, however, do not appear to be the results of experience; his treatise has never obtained much attention, and I do not know that since he published it, he has ever added or improved what was then mere theory. If he had tested it, by devoting himself to the cure of stammering, it is highly probable he would have become very successful. Experience would have led him to modify his theory very essentially. As it is, his treatise fails in the object aimed at, because defects of speech cannot be cured by a book. We cannot learn to sing from a book, neither can we learn to speak. A stammerer learning to speak is exactly in the position of a person learning to sing. A singing master can teach a pupil of sufficient industry to sing, and a person experienced in the treatment of impediments of speech can teach his pupil to speak freely and well, provided sufficient time and pains be taken.

It seems that, while travelling in America some years since, Dr. M'Cormac's attention was attracted by the well confirmed success of Mrs. Leigh's system, which was then taught under oath of secrecy at New York.

The desire that results so beneficial should be placed within the reach of every one, led him to reflect much upon the causes of stammering, and he finally came to the conclusion that the "proximate cause in most cases *arises from the patient endeavouring to utter words, or any other manifestation of voice, when the air in the lungs is exhausted, and they are in a state of collapse, or nearly*

so." This is the discovery upon which he rests his claim, and this is the foundation of his system. But, if what I have said above be true, it will be seen that this is only one form of stammering. The vicious habit of the articulating organs may exist independently of any deficiency of voice. Dr. M'Cormac's directions for inhaling, if practised upon, are more likely to lead the patient astray and to confirm a bad habit of inhalation, or produce one equally bad, than to remedy the difficulty. Without doubt an attention to the manner of inhalation, where the voice is in fault, is of the first importance; means must be taken to keep the air passages open, and to prevent any attempt at speech with the lungs in a state of collapse. If the person attempts utterance by inspiration instead of expiration, he will succeed only in producing with great difficulty a monosyllable, and the effort will be attended with great exhaustion. I do not see that it makes much difference whether we describe this as an attempt to speak with the lungs collapsed, or with the glottis spasmodically closed. The simple fact is, that the breath is not expired at the proper moment to produce articulate sound, and it is emitted in irregular jets. The patient must therefore be taught to respire slowly, regularly, and without effort. Dr. M'Cormac says also, and truly, that the patient having acquired a vicious habit of utterance, he must be carried back to the beginning, and taught to speak entirely over again. Unfortunately, he has not only to learn to speak anew, but he has to unlearn a bad habit of speaking. Herein is the almost absolute necessity of a teacher, or at least an assistant. The vowel sounds are generally uttered without difficulty by the stammerer; they come from the throat without any action of the muscles of articulation, and hence they come out with ease. The difficulty is with the consonants. It is therefore necessary for the stammerer to have some one with him to remind him of every vicious attempt at speech, and to show him by example how the sounds are articulated, the position of the organs, etc. This is to be learnt only by imitation. Now this practice is to be continued until the bad habit is corrected and the new one formed. Nor is the patient safe then. Until the new habit of utterance is confirmed by time, the patient is constantly in danger of a relapse. A study of the proper manner of pronouncing the elementary sounds, and an attentive observation of the defects of speech, are absolutely necessary for the teacher.

It is not my intention, however, to give a detailed account of the different methods proposed for the treatment of impediments of speech. From what I have already said, it will be seen, that I consider it in a great measure a mental disease; perhaps I might call it a monomania.

Whatever may be the case in children, I believe it seldom continues in adults, unless kept up by mental causes. Moral remedies, therefore, are of the first importance.

It may not, however, be uninteresting to glance briefly at some of the methods formerly employed.

The best known and the most ancient of these is the Demosthenic. We are told that Demosthenes, among other means for the removal of his defective utterance, adopted the plan of speaking with pebbles in his mouth. The sanction of a great name, the well known celebrity that Demosthenes acquired as an orator, rendered this method popular. It has, therefore, been much resorted to for the cure of stammering, and various modifications have been invented. The use of pebbles, or a small piece of money held over or under the tongue, or a pea held in the mouth,—have been devised, and stammerers subjected to these processes in the course of the various experiments made upon them. M. Itard invented a platina or gold plate for this purpose, which being forked and adapted to retain its position under the tongue, could be held more conveniently than the pebbles. Now we have no account of the particular species of impediment with which the Grecian orator was affected. There is no doubt, however, that either he or his preceptor in elocution adopted the use of pebbles for the correction of some particular vice of utterance, probably in the motions of the tongue. Now it is to be recollected, as I have already stated, that the want of command over the voice, or over the organs of articulation, occasions violent and convulsive motions of all or particular organs in different persons, so that the most opposite effects are produced. Thus, some attempt to speak with their mouths stretched convulsively open, others with them spasmodically closed; some have improper habits of moving the lips; others of moving the tongue. Now, to attempt to cure a defect which does not exist, will produce the opposite defect, and even a plan wisely devised to remedy one vice, if it be persevered in after it is removed, will produce the opposite. For instance, if a stammerer who attempts to speak has his attention directed to keeping his mouth open, he will be likely, if not watched, to acquire the habit of attempting to speak with the mouth spasmodically open.

One method which I have known employed for the cure of stammering, was that of directing the pupil to press his lips firmly together, and dwell for some time upon the consonants, which he was directed to pronounce with force. This was undoubtedly devised with the idea of giving strength to weak parts: but there could not be a better plan to produce stammering, or to confirm it if it already existed.

Some stammerers are said to have been cured by learning to speak a foreign language. As the pupil in this case is required to take lessons in pronunciation, and to speak the words after his instructer, until he obtains the right sound and accent, we can easily understand how the effect is produced. If the pupil is so far interested and engaged in the acquisition of a new tongue, as to forget his impediment, he may be cured in this way; but if sensitiveness predominate, the embarrassment of endeavouring to express himself intelligibly and grammatically in a strange tongue, is added to his habitual embarrassment, and increases the difficulty in a tenfold degree.

Some instructers of schools have cured stammerers placed under their care, by calling to them the moment they begin to stammer, and obliging them to stop and commence their sentence anew. Here the same remark applies as before. The sensitive stammerer becomes confused at being thus spoken to; he forgets what he has to say, and is besides in a constant tremor for fear he shall be thus interrupted; and hence his liability to hesitate is increased.

The practice of slow and loud reading, has been generally recommended. Of the utility of this, there can be no doubt; but the attention should be directed as little as possible to the impediment.

Dr. John Bostock published in the 16th vol. of the Medico-Chirurgical Transactions, an account of stammering in a plethoric subject; cured by the use of cathartics continued for eight years. The patient was a child of two or three years old when this defect of speech suddenly commenced. The effect of a cathartic was almost immediately perceptible. From the account of the case, however, it is evident, that it was more purely a disease of the nervous system, and more closely allied to chorea, than stammering usually is, and the strict diet enforced, was of more importance than the cathartics.

Learning to sing, has also been generally recommended. This must be highly beneficial, provided the sensitiveness of the pupil do not interfere here again. He must be taught to sing as an amusement merely. If he learns it as an accomplishment or as a means of cure, his voice will be liable to fail him.

Most of the methods which individuals have devised for their own cure, apply to the correction of particular defects, and should no more be used indiscriminately than calomel or venesection in every case of fever. One observation may, however, be made here, which is, that where there is not a great degree of sensitiveness, and where the patient has not already been subjected to previous experiments for his relief, any one of them may succeed merely through its influence

on the imagination; or from drawing the patient's attention to the practice of the method, and diverting it from his impediment. Experiments, however, should never be made: if they do not remove, they will confirm the defect.

Having thus glanced at several of the methods of treatment proposed, I come now to the consideration of the course I judge most beneficial.

I may be asked, if I maintain the importance of an experienced teacher: can parents who have children thus afflicted, do nothing themselves? I answer that they may do almost every thing. With children, almost every thing can be done by moral treatment; and according to the moral management they meet with, will the disease be confirmed or eradicated. The subjects are generally children of extreme nervous susceptibility and of feeble constitutions. The ordinary means for producing vigour and robustness, and for strengthening the nervous system must be resorted to. The muscular system must be developed as far as possible. If the chest is narrow and contracted, every means must be employed of bringing into action the muscles of the arms and chest. For this purpose gymnastic exercises, the use of dumb bells, and various sports may be recommended. In this way, a great deal may be done to produce fulness of the chest. The child may be encouraged in the practice of these exercises as a means of acquiring physical strength, without his attention being called to his defect of speech.

As soon as he is capable of reasoning, let him be driven as much as possible into the society of other children. If his defect is laughed at, let him be habituated to bear ridicule without flinching; let him be taught that those whose feelings allow them to ridicule defects or deformities, are much more worthy of pity than the subjects of those deformities. Let him be carried to the abodes of the deaf and dumb; teach him how much happier he is than they, how great a blessing he enjoys in the use of speech, even if his speech is imperfect. Carry him also into the presence of the blind, the lame, and the deformed. Let him be familiar with the sight of those who are greater sufferers than he.

If you pursue an opposite course—if, because he is sensitive to the ridicule of other children, you let him remain at home, if you impress upon his mind the idea that he has a defect which *must* be removed, and which will be an insuperable bar to his progress in life, unless it is removed; if you allow him to perceive your constant anxiety for his cure, he will get the idea that there is something pecu-

liar in his case—that he is marked out from mankind, as if the seal of Cain were set upon his brow; and that until he is freed from his curse, he can never associate with his fellows without shame.

On the contrary, you should direct your principal attention to convince him that his fate is not an uncommon one; that defects and diseases are the common lot, and assigned for wise purposes. In as far as you direct his attention to his defect at all, let it be with this object—to convince him that it is not an evil. Teach him resignation to the will of God. Impress upon his mind above all things, that he is under the constant protection of a being who knew what was best for him, and who has placed him in the condition and under the circumstances best adapted for his welfare. Priestly atributes the greatest blessings he enjoyed to his impediment of speech; and others may in like manner trace to the same cause, their preservation from much evil, and their possession of much happiness. Our greatest felicity is often produced by what we regard at the time as our greatest misfortunes.

When he begins to feel the importance of a free use of speech (and he may feel the importance of it without being morbidly sensitive on the subject,) and disposed to enter upon a laborious course of discipline, seek out a person who has experience in the treatment of impediments of speech. Place him under his care, and if he is benefitted, do not remove him and think to perfect the cure yourself. Recollect if one of your other children is learning to sing, you would not think of taking the task of instructer upon yourself, as soon as he had made progress. Three months is a very short time for him to remain under the superintendence of an instructer; six months is better, and where it is practicable he should remain a year. If this interferes with his other studies, it is of no consequence. He will derive benefit enough to compensate for the loss. The age I would fix upon for this trial, should be from eight to twelve. Some children, however, are as mature at the former age as others at the latter. At this period, the loss of a year's study may perchance be a gain. To a child of nervous habits, the time allowed from his instruction in speaking, may be much better employed in acquiring health and vigour, by play and exercise, than in study. But if the child is not disposed to enter into this course, if he is irritable and indocile, and regards it merely as an irksome task, it will be better to wait till a more advanced age shall convince him of its importance. Otherwise we run the risk of increasing his irritability and sensitiveness.

Should this attempt fail, none other ever ought to be made. The child should be engaged in active pursuits, and induced to be in

society as much as possible. If his excessive mental susceptibility leads you into the belief that he has superior powers of mind, do not fall into the mistake of thinking that these mental powers must be cultivated. For in so doing, you are increasing his susceptibility, and rendering him miserable. The more ambitious he becomes of mental distinction, the more keen will be his sense of the defect that renders him incapable of displaying his talents and acquirements to advantage. He should be led to look forward to an active—not a literary life. He will be happier as a carpenter than as a professional man. But without resorting to a trade, there are employments enough in which he may gain wealth, and honour, (in our days we place wealth first,) and in which his impediments will be no obstacle to his success.

In very few cases, however, if the course of moral treatment I have recommended were pursued, would the complaint continue. In most cases, the moment you reconciled the mind of the patient to his defect, the moment you relieved him from the fear of stammering, he would speak freely. This is confirmed by the cases above mentioned of rapid cures produced by Mrs. Leigh's system. The patients came to the instructer fully impressed with the wonderful cures they had heard of. The appearance of the latter, his manner and voice confirmed the impression, and when he told them they could speak, they believed him, and spoke without fear, and therefore without impediment. The mere lip and tongue stammering of children is readily cured, if the mind do not share in the disease. As they grow older they are generally capable of curing themselves. We often meet with adults who were stammerers when children, but who cured themselves, or outgrew the disease as they acquired strength. On the other hand, adult stammerers are comparatively rare. Still more readily can the defect be removed in such cases by experienced instructers.

Moral management is, therefore, all important. In most cases it will alone be sufficient to effect a cure; and in cases where it does not, it will render the cure easy to a competent instructer. I would again urge the impropriety of subjecting the patient to a new trial if the first fails. I would urge most strenuously the necessity of leading him to the choice of that pursuit in which his defect shall afford the smallest obstacle to his progress. He is to be taught to look upon it as a necessary evil, and to shape his course accordingly. He is not to be led to bear it in his mind as the prime obstacle to his success, which must be removed before he can be happy. The molehill is thus magnified into a mountain. Whatever side he looks upon, his impediment rises up before him, shutting him out from the road to distinction. It

comes to occupy so large a share of his attention that he becomes a monomaniac: on this subject, he is actually insane: there is this little diseased spot in his mind: fortunate will it be for him if it does not affect the whole; if the gangrene do not extend over all his feelings.

The characters of Lord Byron and Sir Walter Scott afford a striking illustration of the power of education to modify the effect of natural or early acquired defects, or deformities, upon the disposition. Both were the subjects of physical defects. Byron, the victim of a bad education, had been the object of various attempts to relieve this defect. This and his exposure to taunts upon the subject, fixed it in his mind, and produced a sensitiveness akin to madness. Throughout his whole life he evinces strong marks of natural benevolence and philanthropy, but he believed himself marked out from mankind, and his very best feelings turned to bitterness and misanthropy. Scott, on the contrary, whose education was very different, was rendered by his defect a more social being; more ready to enter into the feelings of those around him. It called forth his sympathy for the troubles of others. Scott was taught to bear his defect with resignation, as a necessary evil: Byron to look upon his as a disgrace which must be removed. Had Byron's feelings been soothed instead of being irritated; had he been made to witness the diseases and deformities of others, and taught how many of the same rank in life were greater sufferers than he, we might have witnessed in him all the ardour of a philanthropist. Few persons, I believe, understand how nearly philanthropy and misanthropy border on each other. The same keen sensibility, rightly directed, gives birth to the one, and wrongly directed, to the other.

> "The keenest pangs the guilty find
> Are triumph to that dreary void,
> That leafless desert of the mind,
> The waste of feelings unemployed."

It is said that Howard, if he could not have given vent to his feelings in action, would have been a madman. I will add he would at least have been a misanthrope. Strong feelings unemployed will turn to bitterness.

To the person whose age renders him the director of his own course, I would give the same directions. The same rules that must guide parents in the management of children, should guide him in the work of self education. The first work the stammerer has to accomplish is the regulation of his mind; the acquisition of perfect self command and of mental calmness. When this is done, the rest is easy. Until it is done, it is in vain for him to attempt by physical means to over-

come his defect of utterance. The first embarrassment he meets with may cause its return. When he has brought himself to feel his impediment less keenly; to be less morbidly susceptible on the subject; then, if he is not already cured, let him apply to a person experienced in the treatment of stammering. If he meets, there, others who are afflicted as he is, it is all the better; he will no longer look upon his case as a peculiar one; and if he sees others whose impediments are worse than his, it will give him additional courage.

But great labour and perseverance are necessary in the employment of the physical means, in overcoming the perverse habits of the organs, and training them to articulate correctly. I would advise him, if it be possible, to pursue the method in the place of his usual residence, and while he continues his ordinary employments. An individual may leave his customary abode and pursuits, and go to a neighbouring town or city for his cure. His ordinary trains of association will be broken off, and the new mode of speech will be more readily adopted while he remains absent. But the moment he returns; the moment he resumes his former avocations, and is subjected to his customary objects of anxiety, his former mode of speech returns. This difficulty, indeed, is less in proportion to the length of time allowed for the cure to become confirmed; but were this even a year, still the cure will be less permanent than if made under the circumstances by which he must be ordinarily influenced. The remarks I have made as to the length of time required for the cure of children, apply still more forcibly to the case of adults. The more confirmed the habit, the longer the time requisite for its eradication.

Dietetic and medical means may sometimes be employed by the adult with advantage. If, as is most probably the case, the patient is of a nervous temperament, means must be adopted to strengthen the nervous system, and impart vigour to the frame. No one can doubt, that in stammering, the nervous system is always more or less in fault. Now, the disorderly action of the nerves is said to be the result either of entony or atony; of too much strength or of too much weakness. In the former case, spare diet and antiphlogistic measures are necessary: in the latter, a tonic regimen.

An attention to diet is extremely important. The patient has need of all his powers of mind in their greatest vigour and clearness. He must, therefore, cautiously avoid all stimulants, even meat, unless his health requires it. The excitement produced in the system by stimulants, disposes to mental lassitude, and unfits the subject for vigorous efforts of self-discipline. Animal food in like manner, has the same effect, though in a less degree. I would not, however, recommend

entire abstinence in all cases, from animal food, but only extreme moderation in diet in general, and particularly in regard to meat. This I recommend as calculated to qualify an individual for vigorous mental exertion and the possession of self command. The body must be mortified to bring it under subjection to the mind. Stimulants, moreover, excite the nervous system to irregular action. This is peculiarly the case with tobacco, and hence its use is improper. All excitement of mind or irritation of body must, in as far as is possible, be avoided or controlled. If a good speaker will stammer when under the influence of excitement, still more will an habitual stammerer.

There may be some cases in which the moderate and regular use of wine will be found beneficial; but these cases are rare, and in them the wine will be found to act as a sedative, not as a stimulant; not to produce excitement, but to check it by giving tone to the nervous system. Some persons, also, of nervous habit, may be rendered more excitable by abstinence; and their nervous system will be kept in best order by a simple but somewhat generous diet. In fine, the whole system must be kept cool by moderation, the bowels free, and every thing that excites the nervous system should be carefully avoided.

In regard to the discipline of the organs of speech, an experienced instructer, as I have repeatedly said, is of the utmost importance. Mrs. Leigh's system is still taught by its inventor in New York. That system will do all that physical instruction can do. Mr. King's system also, to which I have before referred, I also believe effectual. Mr. King I think now resides in Baltimore.

But if the patient cannot obtain such aid, what course is he to pursue? I am not sure, but what it wou d be best for him, to endeavour to banish the subject altogether from his mind. In regard to children, I have before alluded to the danger of subjecting them to experiments. With them it is far better, if a good teacher cannot be obtained, to attend only to the moral and physical discipline I have recommended, than to fix the idea of their defects on their minds, by trials, the results of which are altogether uncertain. A much fairer chance of relief is thus afforded them. There is one thing I might mention, which would be beneficial. Teachers of schools are apt to excuse pupils who stammer from exercises of reading and declamation; both from compassion to the unwillingness of the pupil to perform, and from the disagreeable effect on the hearers. But unless the impediment is of the worst description, it would be infinitely better for the pupil if he were induced to read and declaim with the others. It would be a useful exercise for him; it would strengthen his voice and overcome his fear of speaking before others. Besides, most stam-

merers can read and declaim better than they can converse. There ought to be no distinction of any kind made between the stammerer and other pupils.

For adults, the practice of reading aloud when alone, for two or three hours daily, and in the loudest possible tone, will be productive of the greatest advantage in strengthening their voice, and bringing it under their command. There is this benefit in this practice, that it does not keep the attention fixed upon the impediment. In the discipline of the organs, if they can obtain any one to assist them it will be all the better. They should habituate their organs to the pronunciation of those sounds which they find most difficult. The consonants alone, and in combination, will require most attention, and the pupil's friend must remind him when he is wrong. He should pronounce the difficult sounds for him, and let him see the way in which these are pronounced. The false motions of the tongue, lips, etc., must be corrected, and they must learn the proper position of these organs. Great care must be taken to keep the mouth well open, and to make no attempt to speak when the lips are too near together. The lips should never be forcibly compressed, they should but slightly touch, and immediately be brought apart as if with a rebound. Singers are instructed to keep their mouths constantly open, wide enough to admit two fingers between the teeth. Now, it is not meant of course, that they should not close their lips, because then it would be impossible to articulate; but only that they should commence with their mouths fairly open, touch the lips and teeth together only when required for the formation of labials and dentals, and instantaneously bring them back to the former position. This rule must be observed by the stammerer. He must separate his lips or teeth at the very instant they touch; and their resting place must be at some distance apart.

The pupil when he wishes to speak, must first place himself in a position perfectly easy and natural. The next thing is to open his mouth—for he cannot speak without his mouth is open. His third object is to obtain command of sound. The utterance of a vowel, or commencing a hum, will serve to open the glottis, and give him a command of voice. This should be done in a manner perfectly easy and natural, and without the least effort. If an effort is made, the patient draws in his breath, and the attempt at utterance takes place in this situation—with the breath stopped. Having the command of sound, he can speak freely. Hence the importance of attending to the method of inhalation. The gradual and gentle emission of sound should be practised. We have already seen that much benefit may

be derived from learning to sing. Besides, the peculiar mode of articulation in singing, singers learn to prolong a note to an almost indefinite extent. This practice will form an excellent exercise for the stammerer. Every public speaker might derive many valuable hints from the art of singing, and it is now allowed that any person may learn to sing, with sufficient time and pains. A musical ear is not so necessarily the gift of nature, as was formerly believed. If not possessed, it may be acquired. Therefore I recommend every stammerer to learn to sing. To return to inhalation: the patient must be very careful to avoid sudden and forcible attempts at inspiration and expiration. The air should be taken in without effort, and allowed to pass out in a slow and continued current. The practice of taking long breaths is beneficial, but these long breaths must be taken without effort, and without allowing any sound of respiration to be heard. The moment the lungs are expanded to such a degree as to produce inconvenience, inspiration must be stopped, and the moment expiration becomes painful, it should be carried no further. But by practice, the power of husbanding the breath, and prolonging the emission of sound, may be carried to a great extent. By the practice of filling the lungs, and carrying the expansion of the chest as far as it will go without effort and inconvenience, the expansibility and fulness of the chest may, in time, be much increased. It should always be done slowly, and without allowing the breath to be heard. The bad effect of inhaling with effort or carrying inhalation too far, is that a spasmodic action is induced, the air is expired in irregular and convulsive jets. By slow inhalation, the muscles do not become fatigued, but preserve their power to modify the emission of air. They are kept under the control of the will, and can be made to prevent the chest contracting too rapidly. A sentence should always be pronounced without interruption from taking breath. When the pupil first practices this, he can make short sentences, allowing himself places of rest where the sense will permit. But in a short time he will acquire the art of prolonging sound indefinitely: pronouncing the longest sentences without perceptible interruption from breathing. The air is taken into the lungs spontaneously, and the current of sound passes steadily on. The lungs are filled sufficiently between the imperceptible pauses in the emission of sound, for the purpose both of voice and of vital action.

In addition to these objects of attention; to wit, to place himself in an easy position, to keep his mouth well open, to obtain command of voice, the only remaining one is the management of the lips and tongue. On this I have already spoken sufficiently. He must acquire

this power by imitation where it is possible, and where it is not—where he cannot obtain assistance, he will find directions in books on elocution, for the articulation of the elementary sounds. His practice should be conducted before a glass.

The rapid results produced by the system called Mrs. Leigh's, I have said were real. They were made, and can be made as speedily as I have declared. But though the cures appear perfect for the time, until they are confirmed by long habit, there is great danger of a relapse. In a few cases, they will remain permanent, but in a majority, unless the course is persisted in, the difficulty returns. Moreover, if the affection is produced, as I have said, by mental causes, as long as those causes remain in the mind unchecked, they will be constantly acting to reproduce the disease. *Causa non sublata, non tollitur effectus.*

Liability to embarrassment, or to be carried away by strong emotion, will constantly operate to produce a recurrence of stammering. Now this disease is different from all others, for the moment the patient who has imagined himself cured, hears himself stammer, he loses confidence; the fear of stammering returns, and causes him to stammer in his next attempt at utterance. Perfect self command, is, therefore, all important.

Whatever method may be employed for the relief of this affection, no permanent advantage will be gained, in the majority of cases, unless resolutely persevered in for one or two years. With this perseverance, it may be cured with as much certainty as any other chronic disorder, and this not by any new or patent method, but simply by attention to the course I have described.

Boston, August, 1837.

ART. V. *Clinical Report on the Surgical Department of the Philadelphia Hospital, Blockley, for the months of May, June, and July,* 1837. By WILLIAM E. HORNER, M. D., Surgeon, Professor of Anatomy in the University of Pennsylvania, &c.

As this institution presents the most extensive and complete example of a clinical establishment in the United States, the following summary of its features may be interesting to such as have not seen it. It is a portion of the Alms-house for the city and adjoining districts of Philadelphia. Its name is rather conventional than estab-

lished by law; but from its magnitude, and almost perfect insulation from other parts of the building, there are both propriety and convenience in a distinct title, which is now getting into use, though rather slowly.

It is of stone, rough-cast; presents to the south a front of five hundred feet, with the centre and extremities projecting; is three stories in height, with the stories averaging more than fifteen feet in the clear. The entire Almshouse consists of a hollow square, formed by the Hospital and three other buildings, of the same general appearance with the first, excepting that the one facing to the east presents a massive Doric portico of granite. The whole range, if in line, would make a three story building of eighteen hundred feet in length, and averaging nearly sixty-five feet in depth.

The Philadelphia Hospital contains eighteen wards, of forty-eight by forty-four feet, and six of forty-eight by twenty-two. Of these, there are eight wards, that is, two small and six large, on each floor, separated equally into east and west by the centre of the building, which thus has four wards on each side of it for each story, with a north corridor or passage ten feet wide. The eastern wards contain the men, and the western the women. The extreme ends respectively of the Hospital accommodate the lunatics of the two sexes, so as to furnish on each story forty lunatic cells, four mess rooms, and two nurses' rooms; in all one hundred and twenty cells and eighteen large rooms. There are, in addition, two large parlours and four yards attached to the cells.

The wards have all a delightful exposure to the south, giving a fine view of the river Schuylkill and the adjacent highly cultivated district of country. There being no impediment on that side, they are under the most favourable circumstances for a free and pure ventilation directly from the country. An extensive and well kept culinary garden belonging to the institution, is immediately below them on the same side.

The first story of the centre portion is occupied by the apothecaries' shop, the library, and the parlour for the prescribing and resident medical corps. Upon the second floor is the lecture room, measuring seventy-five feet six inches by fifty-two feet square, and having an elevation of thirty-two feet. In the centre of it is an area of seventeen feet in diameter, from which rise, by successive stages, eleven rows of seats.

The seats are elevated on the plan of an inverted cone, (not like a funnel, as is common in amphitheatres,) whereby every row of students has the same angle of demonstration over the heads of the row

in front. (An idea first suggested and carried into execution by myself, so far as I know, at the construction of the lecture rooms of the Medical Institute, and of the anatomical amphitheatre of the University in 1829.) This room is well lighted from above, and also on the sides, so as to render it entirely proper for delicate operations. The space left below the seats to the floor is occupied by four private wards for patients operated on, and by a consulting room for the surgeons, which also accommodates their instruments.

The surgical service of the above institution is conducted in twelve wards, intermingled with an equal number allowed to the medical service. My mode of attendance was to visit five or six times a week, there being four regular prescribing days, two for the male and two for the female side. This arrangement of duty enabled me to see almost every day such patients as were ill.*

The mean number of surgical patients obtained from four periods of the above mentioned tour of duty, was one hundred and twenty-three; the lowest sum at one time being one hundred and eight, and the highest one hundred and thirty-six. In the winter season the number ranges near two hundred. The patients are, with inconsiderable exception, adults, there seldom being six children at any one time, as their diseases are generally treated in another division of the Almshouse establishment called the Children's Asylum. Of the medium number, one hundred and twenty-three, eighty-four were males and thirty-nine females; eight of the former being black, and seven of the latter.

I have remarked on this, as on preceding tours of duty, that primary and secondary syphilis were comparatively rare among the blacks; gonorrhœa more common, especially among the males, than syphilis in all of its forms. The general impression in Philadelphia is, that the habits of sexual intercourse of these people are loose; under which admission they certainly present, in proportion to their whole number and their indigence in our population, much fewer cases of venereal affection than one would expect. The inquiry is therefore started, whether they are less liable to such diseases than the whites, or have them more mildly. Exact numerical returns from the different public institutions of our city, and other cities where they are treated in hospitals, would throw an interesting light on this subject. It may be here remarked that they are very liable to scrofulous affections of

*Some further details respecting this Hospital will be found in our Number for August, 1836, p. 301, &c.—Ed.

the skeleton and skin, which, without due caution, might be attributed to secondary syphilis.

The following list will show the range of surgical diseases, and the highest number at once and lowest number also at once, of individuals under treatment for any affection named. In some instances the same patients continued in all the time; in others there was a succession of them.

Abscess, mammary,	1	Vesico-vaginal,	1
Abscess, common,	1 to 3	Vagino rectal,	1
Anthrax,	1 to 4	Fissure of Rectum,	1
Burn,	1 to 2	Furunculus,	1
Bite of Dog,	1 to 2	Fungus Hæmatodes,	1
Bladder, inflamed,	2	Frost bite,	1
Cellular Tissue, chronic inflammation of,	1	Gangrene, simple, of toe,	1
		dry, of foot from typhus fever,	1
Contusion,	1 to 3	Hydrocele,	1
Calculus,	1	Hæmorrhoids,	2
Caries of Spine,	1 to 5	Knee, inflammation of,	1
Petrous Bone,	1	Luxation,	1
Cranium,	2	Leucorrhœa,	4 to 6
Carpus,	1	Necrosis,	1
Tarsus,	2	Neuralgia of female mamma,	1
Os calcis,	1	Ozena,	1
Cartilage in Knee Joint,	1	Prostate enlarged,	1
Coxalgia,	2 to 4	Pain in thigh,	2
Elephantiasis Græcorum,*	1 to 2	Psoas abscess,	1
Eye, affections of.		Paronychia,	1
Amaurosis,	1 to 2	Polypus of Nose,	1
Ectropium from burn,	1	Syphilis and Syphiloides.	
Entropium,	1	Bubo,	2 to 4
Conjunctivitis, acute,	1 to 3	Chancre,	2 to 5
chronic,	2 to 3	Gonorrhœa,	4 to 9
Ulcer of Cornea,	1 to 2	Phagedenic Ulcer of Penis,	1
Iritis,	1 to 2	Syphiloides serpiginosa,	1
Staphyloma,	1	Ulcers of Vagina,	2 to 3
Unguis,	1 to 2	Ulcers of Palate,	2 to 3
Fistula Lachrymalis,	1	Ulcers of Female Urethra,	1 to 2
Face, inflammation of,	1	Warts,	1 to 3
Fracture,	1 to 5		
Fistula in Ano,	2 to 4		

* Both black; one a girl, the other a man.

Blotches, caries, ulcers, &c.,	7 to 11	Ulcers of Foot,	3 to 5
Sinuses,	1	Head,	1
Stricture of Urethra,	1 to 2	Sacrum from pressure,	1
Scrofula,	1	Neck,	1
Scabies,	1	Varicose veins with and without ulcer,	6 to 8
Testicle, inflamed,	1 to 3	Wound, incised,	1 to 3
Tinea Capitis,	1	punctured,	1
Tonsils, enlarged,	1	contused,	1
Ulcers of Leg, generally chronic,	20 to 37		

From the foregoing list it will be seen that about seventy-five specific forms of disease were treated, a very large majority of them being such as are in the daily walks of surgical practice, others are comparatively rare, and some few so uncommon as to be curiosities in their way. Taken in a group, their number and variety show that the clinical practice of the surgical wards presents a very extensive field for the observation of the phenomena of disease, and for determining the value of treatment.

Operations were not infrequent: to young medical men they constitute the most engaging feature of surgical business; to such as are older, and when the judgment is more calm, they are viewed for the most part as mere substitutes to more desirable but unknown modes of treatment, except when they are called for by sudden injuries effecting a mechanical lesion, and therefore requiring a mechanical reparation.

The following *operations* were performed, besides several of less importance:

The opening and management of large abscesses. Relieving an adhesion of the arm to the side, produced by an extensive burn. Chiselling away the dead bone of a carious cranium and face. Heurteloup's operation for urinary calculus. Two amputations of leg. One amputation of forearm. Setting and dressing eight recent fractures. Three operations for fistula in ano, by seton. One operation for fissure of rectum by actual cautery. Removal of fungus hæmatodes from side of head. An operation for radical cure of hydrocele. One for ectropium. One for entropium. One for pterygium. One for vesico-vaginal fistula. One for recto-vaginal fistula. One for polypus narium.

When I first took charge of the wards, in the month of May, cases of anthrax were of frequent occurrence; none of them, however, of very great extent, their size ranging from that of a black walnut to a filbert. They were managed successfully and without difficulty, by

the free application of caustic potash to them, on the plan recommended by Dr. Physick, and until the gangrenous portions had been completely corroded by it. The subsequent use of emollient poultices made them heal up very rapidly.

The amputations performed were all for caries; two of the tarsus and one of the carpus. The current practice of Philadelphia in similar cases is to endeavour to effect a cure by rest, a diet somewhat regulated, and the various officinal preparations of sarsaparilla, either with or without very small doses of corrosive sublimate or some other mercurial. My own experience is, that when the joints of the tarsus or carpus are opened or exposed to any extent from the progress of this affection, such treatment, or any other in use that I know of, is so uncertain as to be unworthy of confidence, and can scarcely be considered remedial. The native powers of the constitution sometimes enable one to pass through the stages of carious carpus, leaving, however, the forearm shrivelled, and the tendons of the wrist and of the fingers fixed and adherent; so that the mildest termination is an extremity incapable of executing its flexions and motions generally. The progress of caries of the tarsus is, however, such as to lead almost inevitably to a fatal termination, by the developement of tubercles in the lungs and the general vitiation of the solids and fluids of the body, and especially the lymphatic system. In view of this almost certain tendency a surgeon should, at a period much earlier than common, before the extreme emaciation, the hurried respiration, and the pulse beating from one hundred to one hundred and forty or more in a minute, anticipate these evils by amputation. One of the patients with carious tarsus was lost by such delay.

It may be canvassed, whether the surgery of our city is in so sound a state as it ought to be in this complaint, and in many severe and sudden injuries affecting the extremities: I allude especially to compound fractures, lacerations, and comminutions; owing to the extreme reluctance to perform amputation, and the strong desire to make a distinguished cure of a very unpromising accident. In the course of things such remarkable cures do happen; but they are so few, and at such long intervals of time, that they can scarcely be considered as representing rules of practice, and are rather exceptions to ordinary results, being obtained at a large sacrifice of life in other instances.

Fistula in Ano.—The common mode of treating this disease now is by a division of the sphincter ani. My own impressions are in favour of the seton, and the cases treated were in that way. The time was too short to exhibit results; but from preceding experience,

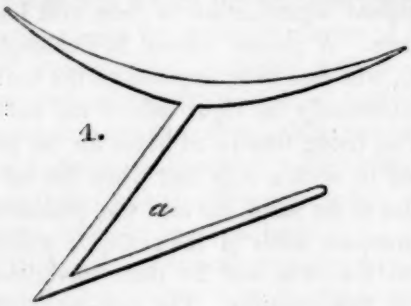
and especially when the constitution is impaired, it appears to me to be the best of the several modes.

Hydrocele.—The injecting process with wine or a solution of sulphate of zinc, also the seton, has a degree of uncertainty frequently productive of disappointment, and leaving much to be desired. In the solitary case which presented itself, and where injection had failed in the private practice of another surgeon, I cured the patient without trouble by the old plan of laying open the tunica vaginalis freely, and introducing a fine linen rag, which was retained till suppuration followed. The cavity contracted gradually, and was obliterated in about three weeks.

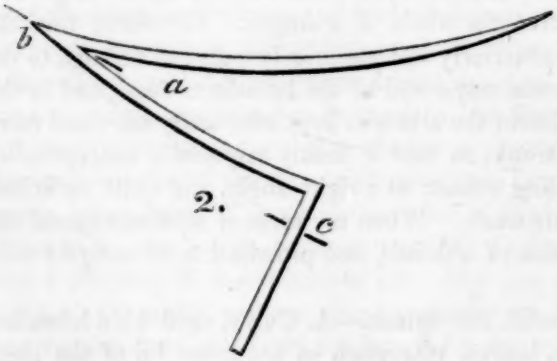
Coarctation from Burn.—The difficulty of correcting deformities depending upon the cicatrix of an extensive burn, is among the most insurmountable in surgery. It is well known that the cellular substance left or regenerated under such circumstances, is deficient in the normal laxity, flexibility, and easy sliding motion of the laminæ over each other; becomes hard, thickened, and is transformed into firm elastic masses or layers, exhibiting a state called *inodule* by Mr. Delpech, (*Clinique de Montpellier*, tome ii. p. 379.) The same condition also exists in the skin, whose organization is then still less normal than the cellular substance. A patient named M'Cullough, a weaver by trade, aged about 40, who had been exposed to the accident of fire, which burnt very extensively the right side of the chest and the contiguous part of the arm, being treated at home for the injury, it was allowed to be repaired in such a way that when the sore was reduced to the size of the palm of the hand, the arm was pinioned to the side by the anterior and posterior folds of the arm-pit; which extended nearly to the middle of the arm, and by their inodulous state fixed it almost immovably to this position. The arm-pit itself was converted into a narrow cylindrical cavity, about large and deep enough to receive the whole of a finger. To relieve this, the folds of the arm-pit anteriorly and posteriorly were cut through to the margin of the pectoralis major and of the latissimus dorsi, and in the progress of the treatment the arm was kept constantly more and more separated from the trunk, so that it finally acquired a susceptibility of extension amounting almost to a right angle, and quite sufficient for the exercise of his trade. When my term of service expired the sore was about the size of a dollar, and promised to be entirely well in a short time.

Coarctation of Eyelid, Ectropium.—A. Curry, aged 42, a labourer, of good constitution, had an ectropium of the lower lid of the right eye, arising from loss of skin on the cheek by a burn four years ago.

The whole of the tarsus cartilage was permanently everted by the shortening of the contiguous skin when the part healed. The conjunctiva of the lid was exposed nearly half an inch in breadth, was highly inflamed, ulcerated, with scabs on it, and much thickened. The deformity was such as to make his appearance very disagreeable; and to that disadvantage was added the pain and paroxysms of additional inflammation from dust and moats getting into the eye when he attempted to work at his vocation. The loss of substance, and the ectropium depending on it, was successfully treated by the following plan:—An incision, two inches in length and down to the bone, was made parallel with and at the inferior margin of the orbicularis muscle. The whole thickness of the eyelid was then dissected up from the adjoining bones. From about the middle of that incision started another, of an inch in length, downwards towards the angle of the jaw. From the termination of the latter another incision of the same length was directed towards the root of the nose. The two last incisions consequently defined an angle of integuments, which, being dissected up as far as its base, was then turned into the beginning of the first incision. The following diagram will illustrate the operation.



The angle A, *Fig.* 1, taken from the cheek, was inserted into the lower eyelid, as seen in *Fig.* 2, and a pin fixed at *b* and another at *c*, so as to keep the parts in place. An almost immediate correction of the deformity ensued. Common dressings were put on, and at the end of two weeks the cure was accomplished, with the exception that the margin of the lid was rather loose, but still leaving the prospect of that being corrected by a natural process of shortening in due time. He, in fact, was so far well, that he was discharged from the wards a week or two afterwards. This may be considered



as one of the numerous illustrations now in progress of the value of looking to contiguous sound parts to supply the losses from disease or accident; a practice which, beginning with the nose, at a very remote period on the banks of the Ganges, has been variously modified to suit different organs, according to their respective exigencies.

Leucorrhœa.—The results of a treatment of three cases of women of the town, whose leucorrhœas it is extremely difficult to distinguish from blennorrhagia and the reverse, excited strong hopes that this obstinate affection is susceptible of an improved mode of cure, the first idea of which originated, I believe, in the French capital; to wit: that of cleaning out the vagina well every day with some abluent, and then packing it full and systematically with lint, by the aid of a speculum; the first step of the dressing being to keep off the lips of the womb from the vagina, by filling up the connecting depression.

The detergent used in one of the cases was the liquor sub-acet. plumb., and the vagina was afterwards plugged with cotton. An ulcer existed at the beginning on a lip of the womb. This patient, from being stationary previously, improved rapidly under the treatment. My tour of service being brought to a close, she was subsequently put on copaiba mixture by my successor, Dr. Pancoast, and is now (September 7th) nearly well.

A second patient was cured very rapidly and perfectly, by the daily plugging of cotton, and cleansing with soap and water. The treatment lasted about two weeks, at the end of which time she was seized with symptoms of inflammation of the womb, which also got well. Whether the latter disease was a consequence of the treatment, or merely a concomitant of the other, cannot be determined until more cases managed in this way are brought before the profession.

A third case was cured in eighteen days, and without accident, by daily plugging with cotton and washing the vagina clean.

In following up the treatment of the preceding cases, I was much assisted by the assiduity and ready co-operation of Dr. Frisby, one of the resident physicians of the house.

Syphilis.—A mere clinical report must exclude discussion; without entering, therefore, into the merits of the two systems of practice that now prevail, to wit, the mercurial and the anti-mercurial, I must affirm, that in several cases of secondary syphilis, the cure appeared to me, to be evidently accelerated by mercurials. The quantity administered was kept within the limits producing salivation. The preparations which I preferred were the blue pill—corrosive sublimate—and iodine of quicksilver. The latter was administered with

surprising efficacy in the case of a child two or three years old, who had hereditary syphilis, showing itself by a chronic efflorescent eruption, with disease of the metacarpus and metatarsus. In ulceration of the palate, it appears to me that there can be no more efficient treatment than an abstemious regulated diet—blue mass to the amount of six grains daily—and the application of lunar caustic daily to the surface of the sore, so as to cover it completely with a thick, well formed eschar. The rigidity of the pharynx and fauces, which attends this affection, may be much relieved by hot gargles of the infusion of sage with borax and honey in it.

The blue pill had also very evidently a strong controlling influence over the copper coloured and other eruptions, belonging to the genus of syphiloid affections.

Acute Gonorrhœa in Males.—In this affection the symptoms being so distinct as to leave no doubt of their nature: the piper cubeba exhibited the most marked and incontestable influence. In nine cases seven were cured on an average treatment of ten or twelve days; an eighth was relieved, but not cured; and in the ninth the remedial value was unsettled, perhaps nugatory. The plan of treatment was to resort to blood-letting, when there was plethora, and the pulse full; to open the bowels freely with a saline cathartic, to keep the patient on a vegetable diet; and then to administer a drachm morning, noon, and night of the powdered cubebs, directing during the continuance of this course, to use as little water or diluent drinks as possible.

My former mode having been principally the use of astringent injections and cathartics, I may now safely say, that at no preceding tour of duty, have I found the cases of gonorrhœa so effectively treated.

In some cases I used on comparative trial, the balsam of copaiba, but not so frequently as the cubebs, and with results much less beneficial, it appears indeed to be an agent of much inferior power.

Calculus removed by Lithotripsy.—Morehouse, aged 36, has had symptoms of calculus since he was sixteen; and suffered so much from them, that he was frequently induced to drink excessively, to assuage his pain. This latter practice had produced for some time habits of intemperance, which he says he had abandoned for a year or more. He is a labourer, of good constitution, and full stature. The calculus was from sixteen to twenty lines in diameter.

After having kept him on a low diet for a week, I operated on him the 7th of July, with Heurteloup's instrument, having previously filled the bladder with four ounces of tepid barley water. In a sitting of from fifteen to twenty minutes, the calculus was reduced to fragments of various sizes, some of them that of sand. The operation

was attended with a considerable discharge of clotted blood, and some pain, magnified, however, by the timidity of the patient.

The procedure of the operation was partly by striking with a hammer, and partly by screwing up the instrument. After having comminuted the stone considerably, I then introduced Jacobson's instrument to finish the trial with, but from the refractory state of the bladder it could not be used without risk of injuring the neck of the latter, it was, therefore, withdrawn.

In half an hour after the operation, I found the patient sitting up; he said that he felt easier than he did before the operation. The next day he was feverish, with pain in the hypogastric region, and quick pulse; he was, therefore, bled to the amount of sixteen ounces, and took the neutral mixture every two hours. In the course of this day he discharged sabulous matter.

On the 9th of July, the preceding symptoms of indisposition had abated, but his testicles and epididymes became swollen and painful, attended with pain in the small of the back. Forty leeches were applied to the scrotum.

On the 14th of July, the symptoms having disappeared, I re-applied Heurteloup's instrument, and in a few minutes comminuted by the same procedures several of the large fragments. He discharged immediately a considerable quantity of calculous matter, and continued to do so during the day, whenever he urinated, with putting the neck of the bladder in the most depending position.

Between the 14th and the 17th, he had discharged a dessert-spoonful of the calculus: at the latter period I performed a third operation, and comminuted what remained.

An examination on the 21st, found him with his bladder perfectly freed from calculus, and without more than a healthy sensibility.

On weighing all the fragments, they amounted to two drachms and ten grains, and belonged to calculous formations of the hardest kind.

Vesico-vaginal Fistula.—The present state of the curative attempts in this disease leaves much to be desired, and the truly miserable condition in which its victims are placed, can scarcely fail to excite the sympathy of every one understanding its nature. The following suggestion is, therefore, presented as a basis for some new attempts: to wit, to bring the *womb* so far down in the vagina that its anterior face may be so fixed as to supply the loss of the *inferior fundus* of the bladder and *its neck*. This idea was put on trial in the following case.

Catharine Hurley, a short, robust woman, of good conformation in the pelvis, and aged about thirty, from some mismanagement in par-

a Catheter, with its shoulder *e*.
b Ephelcometre.
c Sliding part, cut in screw fashion, with a nut.
d The handle, cut in screw fashion, with nut.
The nut of *d* prevents, by being screwed up, the part at *b* from closing.
The nut of *c* prevents the catheter from being forced out of the bladder, inasmuch as it would arrest the shoulder.

turition two or three years ago, suffered a slough of the greater part of the vesico-vaginal partition, the consequence of which is a constant stillicidium urinæ, keeping her person in a state of ammoniacal fœtor, and excoriating extensively her pudendum and thighs. Thinking her's a suitable case for experiment; after having previously tried it on a dead subject, where I made an artifical vesico-vaginal fistula; I resorted to the following process.

A silver instrument of four inches in length, resembling a female catheter, but having a broad circular shoulder in the middle, was provided for the bladder. Another instrument, founded upon the idea of the ephelcometre* of Mr. Guillon, and resembling in its construction an umbrella frame deprived of all its arms but two, and they cut off beyond the second joint, was provided for the uterus. It was made to expand like an umbrella and to close in the same way; and when expanded, it assumed at its upper part a triangular form, of the shape and dimensions of the cavity of the womb, but when closed, it was a cylinder of three lines in diameter. This instrument, when closed, could be readily introduced into the womb and afterwards expanded there, which expansion gave a complete command of the position of the womb, for by the handle of the instrument the womb could be drawn down at pleasure or shoved back, or, in fact, directed in any way.

The first instrument being introduced through the urethra into the bladder, after the second was expanded in the womb, the bladder was shoved back by the shoulder of the catheter, and the womb brought down by the ephelcometre.

* Medicine Operat., par M. Velpeau, planche xx., fig. 11. The name, I presume, is from the action of the instrument Ἑφελκύω, attraho, Μέτρον, mensura. It is intended to draw the womb down in the excision of its neck; which operation is frequently performed by Mr. Lisfranc of Paris; but, according to verbal reports on the subject, with a very great loss of patients; so much so as almost to have discredited it entirely.

The handle of the latter was carried through a hole in the shoulder of the catheter, and fixed in its proper position, so as to be stationary. The relative position of the womb and bladder was now such that the womb plugged up the opening in the fundus of the bladder, and it only required the surfaces in contact to form adhesions for a cure to be the result. To facilitate those adhesions, the edges of the fistula were touched with lunar caustic.

Catharine Hurley wore this apparatus for two days without much inconvenience; there were, however, some mechanical defects in the construction of the catheter, which made it more painful than it need be, and I took it out to undergo amendment. Her intellects being extremely feeble, she did not seem to feel either the physical or moral value of a cure, and became unmanageable, interposing a great many unnecessary obstacles to a second adjustment of the apparatus. She finally declined further treatment, so that she was abandoned at this stage.

A judicious application of this apparatus and treatment ought to be successful in many cases now considered incurable. The constitutional irritation from having the womb fixed in the way alluded to, and which I had apprehended, was unperceived in Hurley; but perhaps in a female of greater refinement there might be more disturbance. The appreciation of this point, once settled favourably by observation on a multitude of cases, I can scarcely doubt that the method of treatment here proposed and instituted must have a decided superiority in the cases generally of vesico-vaginal fistula, over the treatment by suture. I have myself not been able to succeed by the latter, owing to the stitches not holding long enough to be available; and I am disposed to believe that such is the common experience in the trials of them, though there appear to be a few cures. The cure by stitch must be absolutely impracticable whenever the slough takes away the ureters along with the fundus of the bladder; a condition which, from what I have seen, is as common as any other, if not more so. My plan will at least be preferable there.

Recto-Vaginal Fistula, treated by division of sphincter ani muscle. —This malady, arising from a slough produced by parturition, though not so harassing as the other, is almost on the same footing of incurability. The difficulty of retaining sutures availably in place is the same; they soon come away, or are torn out.

Having in the wards a coloured woman named Brown, aged about 35, and of pretty good constitution, I undertook to treat her by paring away the callous edges of the fistula, fixing the opposite sides together longitudinally by two stitches, and then dividing the sphincter ani

muscle, so as to prevent the possibility of the stitches being torn out in the defecation.

This woman having undergone the operation very patiently, and being, in the course of treatment subsequent thereto, got into a paroxysm of violence and indocility which counteracted every thing, and produced an erysipelatous inflammation of the pudendum, which rendered the attempt futile for the time, and the termination of my tour of duty, prevented the renewal of the experiment on her.

The plan, however, of treatment appears to be, if properly conducted, quite as promising as the division of the sphincter ani for fissure of the rectum; and it would at least be a valuable contribution to our professional archives to exhibit its results upon several cases.

Philadelphia, September, 1837.

ART. VI. *Cases of Extensive Malignant Disease with Remarks.* By E. HALE, M. D. [Read before the Boston Society for Medical Improvement.]

Pathological observations, to be of any great value, require not only to be made with accuracy and care, but also in considerable numbers, that the different phases of disease may be compared; the phenomena that are constant, in similar diseases, distinguished from those that are accidental: and legitimate deductions drawn from the aggregate result. A single case establishes little or nothing. But a physician in general practice, unconnected with a large Hospital, has too few opportunities to see such diseases as are of rare occurrence, to be able to bring together any considerable number of observations, in regard to them. He must, therefore, do nothing towards the advancement of pathological knowledge, or must be content with a lower grade of utility, by collecting his cases into such smaller groups, as he may have opportunity to form, and leave it to others to analyze them more fully. It is in this humble view of their value that the following cases are communicated, as not altogether devoid of interest; although much less satisfactory than they might be, if the means were presented of a more extensive comparison with others of analogous character.

CASE I.—*April* 28, 1837. Mrs. S., widow, aged 57 years, has borne children; has been gradually losing health, during the whole winter and spring, and perhaps longer. She has no very distinctive

complaints: is hardly aware that she is sick enough to need a physician; and now has only yielded reluctantly to the solicitations of her daughters. The only positive symptoms, described by herself, are some not very strongly marked indications of derangement of the digestive organs, accompanied by loss of strength and energy. She is more than enough disposed to sleep: pulse moderately quickened: bowels disposed to costiveness. Her complexion has a remarkably sallow hue, as of a person suffering from profuse hemorrhage; but she has had no unnatural or excessive discharge of any kind.

June 2nd. She has been treated chiefly in reference to the derangements of the digestive functions, by mild cathartics, with some unsuccessful attempts to use light tonics. The disease has, apparently, made very little progress either way. At times she has thought herself improving a little; but, on the whole, the change is very slight. The countenance has the same bloodless expression; tongue pale, with a slight coat; pulse 78. I examined her, with considerable care, by percussion and auscultation without discovering any morbid phenomena. She is still down stairs, and takes some part in managing the affairs of her family.

June 13th. She has fallen off greatly since the last visit. She is now confined to her bed; is unable to walk across her chamber; complains much of dizziness and a sense of swimming in the head, with palpitations of the heart, whenever she makes any exertion, or rises suddenly from her pillow. When perfectly at rest, she breathes without difficulty; lies on the back, or on either side indifferently, the shoulders not at all elevated; pulse 104, tolerably full, but soft and compressible; skin paler than before; no degree of friction will excite either redness or heat on any part; precordial region somewhat flat on percussion; resonance good in all other parts in front; respiration vesicular; faint over the heart, puerile below the left clavicle, and also in the right breast; impulse of the heart rather feeble; both sounds of the heart distinct; a strongly marked bellows sound after the first; some flatness in both backs; a slight bronchophony in the lower right back. Most of these observations were confirmed the following day by Dr. O. W. Holmes, whose ear is more practised than mine in external exploration. The flatness of the precordial region was particularly noticed by him.

July 1st. The patient has declined from day to day, without any considerable change in the character of the symptoms, until this afternoon, when she died. The dyspnœa increased and became the most prominent cause of suffering, but did not require the shoulders to be elevated. The paleness increased. There was never the slightest

appearance of lividity. There was no swelling of the lower extremities until the last day.

After her death I learned, for the first time, that more than three years ago she had had, what was called by some doctor, a cancer in the right breast; that she had put on "bug poison," which had *killed it,** [the daughter's expressions,] and it had not troubled her since. I had been in attendance on her family previously to the time indicated, and was never consulted for any thing of the sort. It appears, however, that she had always manifested a peculiar shyness on this subject; although I do not think she would have concealed it from me, if she had been conscious of any suffering from such a cause in her last sickness.

Examination sixteen hours after death.

Externally.—The paleness of the skin was still very striking; body not emaciated; chest flat on percussion at the sides, sounded well in front; no flatness over the heart. There was a hardness in each mamma: the internal texture of the right was hardened and leathery, but the glandular structure was not destroyed: in the left was a scirrhous tumour, about two-thirds of an inch in diameter. The muscular substance was pale and soft. The cartilages of the ribs were ossified.

Chest.—There was half a pint of bloody serum in the left pleura: the right cavity was obliterated by old adhesions of the lungs to the ribs and diaphragm. Both lungs were highly œdematous; there was no hepatization, and no tubercles; they were carefully sought for, but none were found. There was in the bronchial glands a scirrhous mass of considerable size, and a scirrhous tumour about an inch in length in the lymphatic glands of the neck, a little below the larynx, on the right side. The lower portions of the trachea were ossified. The pericardium was healthy; quantity of water natural. The size of the heart was natural, but it was flaccid and its fibres relaxed, giving it the appearance of being somewhat enlarged; its texture was pale and soft; the cavities of natural size; the parietes thin; the average thickness of the left ventricle four to five lines; the lining membrane of the cavities thickened and opaque. The valves were all healthy. The blood in the heart and great vessels had a peculiar appearance; the coagula soft and tender, and the serum of a dirty brown colour.

Abdomen.—There was about half a pint of serum in the cavity of

* The "bug poison" was doubtless a solution of bi-chloride of mercury. The daughter's expression alluded to the notion still prevalent in certain classes of the community, that cancer is a living animal, preying upon its victim. I of course attach no importance to the statement of the influence of the application in this case.

the abdomen. The liver was small and flaccid. There was a scirrhous tumour, four lines in diameter, in the convex surface of the right lobe, extending about the same distance into the substance of the organ; and another of the same kind about three lines in diameter in the concave surface. The gall bladder contained a large number of small calculi. The stomach was healthy. Externally the pyloric portion was attached to the arch of the colon, by means of a scirrhous mass, which was situated in the omentum at this part. There was a mass of scirrhous glands in the mesentery, and a large mass of lymphatic glands in a state of schirrus, extending along the left side of the spinal column. Both ovaries were much enlarged; one of them as large as a hen's egg; their external surface uneven; internal structure entirely scirrhous. The uterus was healthy, except some slight appearances not worth recording. The left kidney was healthy, the right was dense throughout, and one tubular portion was scirrhous. The bladder was healthy, and was distended with about half a pint of urine. The axillary and the inguinal glands, on both sides, were diseased.

The several scirrhous tumours presented, in general, nearly the same appearance; they were hard, and their cut surface shining with a pearly whiteness. That in the bronchial glands was partially softened into a gelatiniform consistence, of the same pearly colour. In one of the ovaries was a small cavity filled with a reddish fluid, which might, perhaps, have been the commencement of ulceration.

Case II.—*April* 19. Mrs. H., widow, aged 69 years, has borne one child. Has had rather unusually good health through all her long life until the last winter. About the 1st of December, she began to lose strength and appetite, and to feel more or less of pain in the abdomen. Those symptoms have been gradually increasing to the present time; but she has not taken either advice or medicine. She is now able to walk out; feebly, however, and is much fatigued by exercise. She complains chiefly of great oppression after taking food, with a constant sensation of sinking in the region of the stomach; a constant uneasiness in the lower part of the rectum, with violent pain at every fæcal discharge; bowels constipated; urine scanty, and passed with pain; abdomen tense and tender on pressure.

℞. Pil. hydrarg.; pil. aloes and myrrh, āā ʒss.; extract conii, gr. xii.; M. f. pil. No. xii.; one pill every night.

A solution of equal parts of bi-tartrate of potass and acacia gum to be taken freely as a drink.

May 18.—The oppression at the stomach is somewhat relieved; she suffers less from taking food, but has little appetite. The pills have

produced copious evacuations of solid fæcal matter; abdomen very tense and tender, so as to render a thorough examination of it impracticable; no change in the state of the urine; nights restless and sleepless; continue the pill at night with an additional grain of extract of conium. ℞. Spiritus. æther. nitros.; tinct. humuli, āā ℥i. of which take one drachm four times a day.

June 27. She has continued the pills with various slight modifications up to this time. The discharges from the bowels have not been very copious, but they have been produced once or twice daily, and have always consisted of fæcal matter. She has taken opium, in moderate doses, and has tried hyosciamus, besides the conium, and the tincture of hop, but neither has given her much rest or sleep. She has also used various diuretics with very little apparent immediate effect, although the dysuria has gradually subsided, and is now gone. Mustard poultices and blisters have been applied to the abdomen. The tension and tenderness are greatly diminished. A large hard tumour is now felt in the right iliac region, extending up the side, and spreading partially over the abdomen. It is moveable, very tender on pressure, and terminates at the lower extremity in a thick round mass. The oppression after eating is wholly removed, though she still has little appetite for food. The pain and uneasiness in the rectum are gone. The pain in the abdomen is at times severe, but not constant.

From this time, for a few days, she improved greatly in appearance and comfort. The discharge from the bowels increased in quantity; it was quite offensive and consisted of scybalæ, at times more or less softened by accompanying fluids, often hard, and in their interior portions almost dry; one or two such discharges were obtained daily, and in two or three instances several more, with very little apparent exhaustion. The other symptoms were all greatly mitigated, and she regained something of her natural cheerfulness. A pill of extract of conium, with one-sixth, and afterwards a quarter, and then a third of a grain of sulphate of morphia, generally gave her a quiet night and sufficient sleep.

July 2nd. The blue pill was omitted, and a pill substituted containing aloes, two grains; sulphate of quinine, one grain; little change of symptoms.

July 4th. She began to complain of occasional nausea, chiefly in the morning; for which she took tincture of cinnamon and laudanum, with little or no benefit. The paroxysms of pain in the abdomen had become more frequent and more severe. On four successive mornings she took a pill containing two and a half grains of rhubarb and

half a drop of croton oil. They were followed by large discharges of the same character as before, with much relief of the pain in the abdomen and of the nausea, and without much sensible depression of the strength.

July 26th. The nausea has increased, and is now nearly constant. She vomits every morning, and occasionally at other times, a whitish ropy liquid. She never throws off her food or drink, of which, however, she takes very little. Her strength is much reduced in the last ten days. For several days she has omitted the cathartic pill, but has had one or two fæcal discharges daily. The tenderness in the abdomen, over the tumour, continues, but she has no constant pain. The abdominal tumour is less prominent, but does not appear to be diminished in extent. The pulse has, until recently, been but moderately quickened; it is now 112. The tongue has, for a long time, been covered with a loose slimy coat, which has now become brown.

August 1st. Pulse 132, comatose. No material change in the character of the symptoms. They have been from day to day more aggravated, and the strength has steadily declined. She died in the night.

Various other remedies were tried at different times for the vomiting, besides those already mentioned; effervescing draughts, creosote, &c., but without benefit. Twice she took an emetic, and was slightly relieved for a few days after each. The matter vomited was, to the last, only such as is above described, a white ropy liquid.

Examination nine hours after death.—The body was very considerably, but not excessively emaciated. The mammary glands were natural. The cartilages of the ribs were not ossified. There were some slight adhesions of the right lung, which were of long standing: no effusion in either cavity. The surface of the lower lobes of both lungs, the left more thickly than the right, was sprinkled with small white tumours, to the number of twenty or thirty in all, similar in appearance to the larger tumours in the other organs, but perhaps a little more firm. They extended from half a line to a line into the substance of the lung, and about the same extent in diameter, but did not project from the surface. In the lower lobe of the left lung was an old irregular cavity, equal in extent to about one half or two-thirds of an inch in diameter, containing several chalky concretions mixed up with curdy matter, one of which was about three lines in diameter. In other respects the lungs were healthy. There was no appearance of tubercles, nor of hepatization.

The heart was small and pale. The right auricle contained a moderate quantity of dark coloured blood, and a small rotten looking coagu-

lum. No appearance of disease was discerned in the heart or valves. Neither the coronary arteries nor the aorta were ossified.

In the substance of the diaphragm, on the right side, was a large whitish tumour, projecting considerably from both surfaces of the organ, but without any adhesion either to the lungs above or to the liver below. Unfortunately this tumour was not particularly examined. Posterior to the situation of this tumour, the diaphragm adhered to the liver for a small space, where it was attached to a similar tumour in that organ.

The omentum occupied the whole anterior portion of the abdominal cavity. About one-third of its upper part was healthy, and was well filled with fat. The remaining portion was converted into a large mass of malignant disease, irregular in its form, extending quite down into the iliac region on each side. It varied in thickness, but the average was more than an inch. At the lower part, on the right side, it terminated in a thick rounded mass, which had given through the parietes the appearance of a nearly distinct tumour. A little below and to the left of the umbilicus, the omentum adhered to the peritoneum for a space of nearly an inch in extent. Besides this, it had only its natural attachments. The density of this diseased mass differed in different parts. Some portions of it, when cut into, resembled the pancreas in feeling and appearance, except that it was less firm, and was perhaps somewhat more vascular. One small portion exhibited something of the appearance of fungus hæmatodes. From the cut surface, generally, a thick purulent looking fluid was forced out by pressure.

The liver was about the natural size. It contained, dispersed through its substance, a great number of tumours of different sizes, several as large as a walnut. They were much less hard and shining than scirrhus, of a dull white colour. Some of them were softened into a custard-like mass.

The gall bladder contained a little thin bile, some bright yellow grains, and two gall stones, two to three lines in diameter.

Stomach.—In the smaller curvature was situated a large tumour. It formed a considerable projection from the external surface of the organ, and its internal face was ulcerated to the extent of three inches in length by two in breadth. The structure of the tumour was unlike that of scirrhus. The mucous coat of the stomach extended some little distance over the internal surface of the tumour, around its circumference, while from all the central portion, it was removed by ulceration. The ulceration extended very little into the substance of the tumour. The muscular coat terminated at the edge of the tumour

and could not be traced at all into it. The bulk of the tumour was somewhat more than half an inch in thickness. The glands in the immediate neighbourhood were converted into a diseased mass. The texture of this tumour was similar to those already described in the omentum and liver. It was so entirely disorganized that it was impossible to discover any of the original structures. Both the orifices of the stomach were healthy; and so were the other portions of the organ. The several coats were of a natural thickness.

The spleen was small, flaccid and dark coloured. There was a diseased mass, of the same character as those already described, half or two-thirds of an inch in diameter, where the vessels enter the organ.

The intestines were moderately distended, and contained a moderate quantity of fæces. They were not opened except for a short distance in the ileum, where they were healthy. Two or three small masses of disease hung from the surface of the ileum, two or three by five or six lines in extent (being attached by the shorter diameter, so as to give them a pendulous appearance;) and three or four larger masses of the same kind, from the descending colon. They were of the same character as the rest.

The mesentery contained considerable fat; opposite one portion of the small intestine were two cretaceous or bony masses, quite hard, and of the size and form of large cherry stones.

The uterus was not enlarged. The parietes were thin. The posterior wall was either affected by malignant disease, or the disease was external and adhered; probably the first. One portion, about an inch in diameter, was more yellowish and firmer than elsewhere. A diseased mass, about three lines in diameter, projected into the body of the uterus towards the cervix. Elsewhere the body, cervix, and os uteri were healthy.

The right side of the pelvis was filled by a diseased mass, three inches or more in diameter, which was probably the right ovary, more malignant in appearance than any other part. It adhered to the right and posterior part of the uterus. The superior portion of the mass appeared externally like a large cyst, and when cut into, was found to consist of several cysts, from which flowed a clear yellowish liquid. They occupied, however, but a small portion of the whole tumour. The principal mass was a soft solid, of unequal firmness in different parts, nowhere exhibiting a smooth medullary surface, of a whitish grey, opaque colour; in some parts almost softened into abscesses. From the cut surfaces when pressed, there oozed out a considerable quantity of greenish pus. There was no trace of fallopian tube or

ovary on the right side. The left ovary was not enlarged, but its structure was diseased. The left fallopian tube was healthy. The kidneys and bladder were healthy.

Remarks.—These cases are both somewhat remarkable for the great extent of the malignant disease, and the number of organs affected. In consequence of this, death was produced at a much earlier period, in reference to the condition of either of the parts concerned, than in most cases where the local affection is more limited. For the same reason too, the immediate cause of death had but an indirect dependence upon the primary disease; and during the whole course of the disease the symptoms were greatly obscured by the variety of secondary phenomena.

In the first case, the immediate cause of death, was, doubtless, the œdematous state of the lungs. This again can easily be traced to the anemia. Nor is it difficult to believe that the scirrhous state of so many of the mesenteric and lymphatic glands may have occasioned the want of healthy blood. Anemia to an equal extent, it is true, is found, without scirrhus or any similar affection as its cause; and extensive scirrhus is sometimes observed, where it has not produced anemia. Still, where both are found together as in this case, there is so much appearance of satisfactory explanation, in regarding the one as the cause of the other, that it is not easy to resist the impression, that they rightfully sustain the relation of cause and effect. It is curious that in this case there should have been no pain, nor any other indication of morbid irritation in any of the many parts affected.

In the second case, the connexion between the diseased condition of some of the organs and its obvious effects, was more immediate. Yet much of the suffering was of a different character. So much relief, and such a mitigation of symptoms followed the removal of the great accumulation of fæcal matter in the intestines, as for a time, to throw some doubt upon the diagnosis; especially as the moveable tumour, in the right iliac region (which proved to be the thickened and hardened extremity of the omentum) might easily be mistaken for an enlarged and crowded cœcum. The feeling of oppression at the stomach, followed by vomiting, would have more surely indicated structural disease of that organ, if there had not been so long an interval of entire relief from it. The vomiting was much less prolonged and less distressing than in ordinary cases of cancer of the stomach. From this circumstance, in connexion with the appearance of the diseased portion, it may be inferred, that the ulceration of the mucous membrane was of recent occurrence.

2. It is of much more importance to remark in both cases the con-

stitutional origin of the disease. Many pathologists do not indeed require any farther confirmation on this point. But there still are those, surgeons especially, who regard malignant disease in the internal organs as the result of absorption from some local affection; and who are ready to believe that if the diseased part had been earlier and more effectually removed, the constitutional affection might have been prevented. In neither of these cases was there any local disease so much more advanced than the rest as to countenance at all the supposition of its having yielded matter to infect the system by its absorption. Whatever may have been the affection of the right mamma in the first case, which was said to have been cured, it could not have proceeded to any such extent, certainly not to ulceration, as to give rise to a morbid poison capable of being absorbed and diffused over the body.

If malignant disease ever is so strictly local as to carry with it, when the part affected is wholly removed, all its malignant tendencies, then there are diversities in its character which the investigations of pathologists have not yet been able to distinguish. This is a question of great practical importance. The expediency and propriety of many surgical operations depend upon it. How often does a patient undergo a painful and dangerous operation, only to be hastened out of life by the rapid developement of the disease in some other part. On the other hand, it cannot be denied that there have been cases which could not be distinguished from true malignant disease that seem to have been arrested, and the life of the patient saved, by the removal of the part affected; and others again in which, although the disease ultimately went on to a fatal termination, its course was retarded, and life prolonged by the operation. Often, however, the result is much less favourable.

3. The nature of the diseased deposit was in the two cases strikingly unlike. Some writers seem to regard the different degrees of hardness in masses of unorganized malignant disease, as little more than differences in the stage of advancement. There was here a marked dissimilarity in the two cases in all the several deposits. In the first they were of a cartilaginous hardness in all their localities; while in the second they were much softer in all, and were destitute of the pearly lustre of the cut surfaces which the first presented, although they did not exhibit many of the peculiarities of medullary fungus. The mode of softening in the latter case was also unlike that of scirrhus. There was a considerable infiltration of fluid in some of the diseased masses; but there was none of the gelatiniform matter so commonly observed in the softening of scirrhous deposits.

The peculiarity of structure was most noticeable in the stomach. The entire absence of the white bands commonly observed, of thickened edges around the ulcer, of depression in its central parts, as well as of soft matter adhering to it, or discoloured fluids ejected from the stomach, distinguish it from ordinary cancerous ulceration of the stomach.

4. The lungs were in both quite free from tubercles. The observation of this fact would be of little value if it were limited to these two cases; but by the kindness of my friend J. B. S. Jackson, M. D., at whose suggestion chiefly the remark is made, I am enabled to extend it much farther. He authorizes me to say that in fifteen or eighteen cases of malignant disease which he has examined, and in which his attention has been particularly directed to the state of the lungs, he has not in any case found tubercles in them. There is an impression among surgeons that patients are liable to die of phthisis after the excision of malignant tumour. In some such cases, in which it was said that tubercles were found in the lungs, the observation seemed to have been carelessly made. How far it is supported by good authority, I am not at this moment prepared to say. The practical interest of this question is still more increased if the inquiry be carried farther, so as to have reference to scrofulous affections in general. If it should be made to appear, as there is perhaps some reason to believe it may be, that scrofula and malignant disease never or rarely co-exist, it will aid us not a little in the diagnosis of many cases of great doubt and uncertainty.

Boston, September, 1837.

ART. VII. *Remarks on the Action of Presence.* By JOHN W. DRAPER, M. D., Professor of Chemistry and Physiology in Hampden Sidney College, Va.

There are certain classes of phenomena, going on in the animal system, which, from their resemblance to chemical operations, have been brought forward as examples of the action of those forces, which have a dominion over lifeless matter. Affinity, and electrical attractions, unquestionably, however, are not the powers which cause these diversified results; so little indeed do they display that energy which characterizes their action over dead matter, that many physiologists

have been disposed to deny their influence over the body, so long as life remains.

The rapid advances of modern chemistry, are every day changing or modifying our views of the forces operating on inorganic masses, to produce change. We are on the very verge of forsaking as untenable, doctrines which during many years have been regarded as the foundations of the science; the number of facts crowding upon us from every quarter, call for these changes of opinion, and they are changes of a character which must seriously affect physiology. Chemistry, as applied to medicine, has hitherto been utterly incompetent to explain in a clear or striking manner, any of the functions of life. We have seen darkly, some kind of connexion, or some faint resemblance; and in a few cases, as in the function of respiration, attempts have been made to bring the action of chemical force to bear, in giving explanations of the phenomena of vital operations. But the chemistry that is taught in the schools, is not the chemistry of life, and it would puzzle many of its professors to say, in what point it can be more extensively applied to physiology, than hydraulics or any other science.

These remarks are called for on reviewing the series of facts, which have been cited by different chemists, as compelling us to modify our ideas of affinity. To me it appears, that the extension of these facts will establish an important branch of chemistry, far more nearly allied to medical philosophy, than the chemistry of inorganic masses. For this reason, I propose to make a few remarks on the *action* of *presence*, in contradistinction to affinity.

When a compound consisting of two or more bodies, is disturbed by the action of a third, the laws of chemical affinity require, that the third body shall unite with one or both of the other two, or a new compound be formed.

Such is in brief the fundamental postulate of inorganic chemistry; if the nitrate of baryta be decomposed by sulphuric acid, it is essentially necessary that the latter acid should *combine* with the baryta; if muriate of ammonia be decomposed by the addition of lime, it is essentially necessary that the lime and muriatic acid should unite to form a new compound, before the ammonia can be set free.

Now, there is nothing of this kind going on in the animal frame; we see, it is true, the production of an endless variety of substances, but the mode of operation is clearly not that of inorganic chemistry. The kidneys, in separating urea from the blood, add to that fluid no precipitant; there is not, so far as we can find, any destruction of their tissue, accomplished as an essential part of their function; they take from the blood, but they yield it no return, and the same may be said

of any other gland. Does the liver, whose great office appears to me to be, to bring the blood of the chylopoetic viscera to the same chemical constitution as that contained in the great venous trunks from the extremities; does the liver lose any of its bulk or substance in performing that office, in any manner approaching to that definite equivalent quantity that would be rendered up by an inert mass, in accomplishing any change in its chemical constitution? there may indeed be a wear and tear as it were in all the organs, a kind of loss which we look for in the action of every machine; but this is very different from that loss in definite proportions, which must essentially arise if a gland in the performance of its duties, gave up a portion of its own substances in lieu of the substance it was secreting.

It has been from considerations of this kind, that physiologists have been induced to suppose that glandular action bore a certain resemblance to the mechanical operations of sifting or filtration; the structure of the kidney for instance, is such, in their opinion, that it allows the urea to percolate through the fine vessels emptying into its pelvis, but denies a passage to the other constituents of arterial blood. That in certain cases this opinion is correct is unquestionable, though perhaps it admits of very much doubt, whether any one of the operations of secretion are entirely due to this cause; it demands of us a postulate, which chemical physicians are not prepared to grant, viz: that all secreted fluids exist primarily in the blood, and merely ooze out of the vessels wherever they find a suitable leak. Perhaps hereafter it may be shown, that the products of secerning action pre-exist in the blood, but if any one at present should affirm it, he certainly would say a great deal more than he could prove.

The elements of organic bodies being united to each other in definite proportions, it is not an unfair inference that they are subject to the same laws which obtain in inorganic combinations. And yet a check is certainly placed upon the action of those forces, for organic masses never contain a sufficient quantity of oxygen to convert all their carbon into carbonic acid, and all their hydrogen into water. During the life of a plant or an animal, there is no disposition in its elements to satisfy the demands of affinities which appear to be far more energetic than those under which they are existing; affinities which come into full play at the close of life, and only cease with the dissolution and destruction of the whole fabric.

The great difference between the affinity of chemistry, and the force of vitality consists in this, that whereas the former in all the changes that it produces, acts by substituting one element for another, the latter impresses changes without replacing the elements, which

may be abstracted by its operation. As an illustration, the chemist by adding re-agents, precipitates urea from the blood, those re-agents entering into union with the substances with which the urea was combined; but in the natural process, the kidney adds nothing, either acid or alkaline,—effecting the decomposition by its own structural arrangement, or by the energy of some substance contained in it, which, without participating in any new forms of combination, produces decomposition merely by its presence.

Is then *the presence* of a third body sufficient to loose the bonds of union of two others? Is it an error to suppose, that chemical decomposition cannot be effected except by a replacement of elements?

From the extensive bearing of this question, both upon physiology and the practice of medicine, the scientific chemist will foresee how much hangs on its decision:—if we affirm, that the propinquity of one element can determine the combinations or decompositions of others, without participating in the change itself, we strike at the very basis of the doctrine of affinity. It is with an impression of the importance of these considerations, that Berzelius has recently enumerated certain cases of an action, not comprehended under chemical affinity. He has given us a history of a train of discoveries, which place beyond all manner of doubt, the fact, that the mere presence of one body may cause changes in the mode of union of others, without at all participating in them itself. Of such a character was the observation made by Kirchoff, that dilute sulphuric acid had the power of changing starch first into gum, and next into sugar, without adding any thing to, or taking any thing from the combination. More recently, an action of the same kind brought about by the same acid, has been detected in the conversion of alcohol into ether; it is not the abstraction of one equivalent of water from alcohol, which effects its etherization, but the mere presence of sulphuric acid. A whole class of bodies exercise the same effect, on the persulphuret and peroxide of hydrogen, producing decomposition, and not acting as elements of the new compound. But perhaps the most marked example of this action, is when a jet of hydrogen falls on spongy platina, under exposure to the atmosphere; the platina determines combustion, and the formation of water. Iridium enjoys a similar property, and what was at first supposed to be a peculiarity as respects platinum, is now known to be common to an extensive class of agents. The operation of yest in disuniting carbonic acid and alcohol as constituents of sugar, cannot be explained by any chemical reaction of the elements concerned, any more than the action of diastase in the transformation of starch into sugar, or the change of alcohol into acetic acid by disintegrated pla-

tinum. Results like these, bearing a marked comparison with the usual play of chemical affinity, ought to be recognised by distinctive appellations. Berzelius proposes to designate them as *catalytic actions*, and the forces bringing them about, *catalytic forces*—terms which are unobjectionable.

It is at once curious and well worthy of remark, that the very first group of catalytic results with which we are acquainted, form a complete series of chemical transformations. By the action of sulphuric acid, lignin or the fibre of wood may be transformed into gum; and this, by the aid of heat, into sugar; sugar, by the action of yest, into gluten; and a variety of animal and vegetable matters are converted into acohol. Alcohol, by the action of disintegrated platinum, is converted into acetic acid. Here, then, is a series of results brought about by catalytic action, commencing with the transformation of the fibre of wood, and ending in the production of vinegar. Variations in this series might be mentioned: instead of lignin, starch might be taken, which may be changed by diastase into sugar, and this again successively transformed into acetic acid. Now, each one of these substances is generally met with as the produce of organic action; and indeed almost all the catalytic results known, end in the production of bodies allied to the organic kingdom. The strongest affinities may thus be overcome; and the electrical forces which hold together dissimilar particles may be so completely antagonized, that decomposition shall result. It is thus that, at certain temperatures, iron disunites the elements of ammonia, without combining with them; whilst in vessels of earthenware or glass they bear a much higher heat without disturbance. It is thus also that the presence of any metal determines the evolution of aqueous gas from water at 212° Fahr., when the same phenomenon in a vessel of glass does not happen until the temperature has reached 214° F.

Perhaps it might be premature to restrict the action of these forces to the production of organic matters. Do not circumstances lead us to extend their influence much further? how else shall we explain the action of an incandescent wire in producing the detonation of explosive mixtures and determining certain modes of combination. These forces have the power of controlling the action of chemical affinity, and often of overcoming it. The peculiar condition that bodies by their aid induce changes in which they do not participate, and those changes being often identical with the results produced by organic life, point out features of resemblance in actions too well marked to be misunderstood. There are cases, moreover, where we have absolute proof that organic operations commence with catalysis, as in the accu-

mulation of diastase which surrounds the eye of a potato, through which the starch of the tubercle becomes converted into gum and sugar. Now, as is observed by Berzelius, it is not probable that the action mentioned is the only one of its kind in vegetable life; on the contrary, it may be presumed, that in vegetables, as well as in the animal body, a thousand catalytic effects take place between the tissues and the liquids, whence result the great number of different chemical compounds, the production of which, from the same brute matter which we call blood or vegetable juices, cannot be explained by any other known cause.

As the combinations resulting from catalysis obey the laws of definite proportions, we have abundant indications that, in a manner analogous to chemical affinity, these forces are manifestations of the electro-chemical relations of matter; and perhaps hereafter we shall be able to trace both as modifications of a common cause. The scanty number of facts hitherto recognised, and our want of knowledge of all the circumstances of the phenomena, do not warrant us, however, at present, in forming any decisive opinion. It is highly desirable that medical chemists would bend their attention to the subject, in order to increase the little stock of information we possess.

Pore-action is unquestionably a catalytic phenomenon,—a manifestation of that power, in one of its most complex cases, where structural arrangement is called into operation to give a distinct modification to the impress of chemical power. The walls of a pore have a decisive action due to their chemical constitution, but the shape and magnitude of the pore itself exercises a modifying influence equally great. The resolution of the problem of pore-action will divide itself, therefore, naturally into two parts: to determine the mechanical effect of the walls of all pores in general, and the catalytic action of pores of different chemical constitutions. These would lead to a physical determination of the general laws of equilibrium and motion of fluids moving through tissues and in glands, and point the way to the widest of all fields of physiological research.

All organic masses engaged in secerning action, essentially consist of a tubular arrangement. In some, the length of the tube becomes small in comparison with others, and there results a conglomerate system, spread out like a sheet or thin tissue, as is the case with the membranes; but, the mode of action in both instances is probably alike,—the particles of which the walls of these tubes consist, by some direct action upon the liquids they are in contact with, bring about changes strongly resembling the results of chemical affinity, and yet differing essentially from all kinds of chemical phenomena. There

is no problem whatever of more absolute importance to physiology; no question whose solution is more desirable, than to have a full knowledge of the statical laws by which pores act. It would reveal to us a thousand of the mysteries of organic life, and would lead us at once to the chemistry of vitality. Vegetables and animals consist alone of pores of variable length; each organ is a system of such pipes having actions of its own; yet, of the laws which solicit the movement of fluids in these pipes, and which bring about chemical decomposition, we know nothing. Of the conditions of their equilibrium we are equally as ignorant as we are of their dynamical laws. It was anciently so with the system of the world; sympathies and antipathies explained the action of one distant orb upon another, and the intricacies of their motions were explained by likening them to the vibration of a musical cord. Physiology has not yet arrived at its Newtonian era.

There is, I repeat, no problem of greater interest to medical science, than that which relates to pore action, and the motion of liquids in narrow cylinders. Confessedly the laws of inorganic chemistry are utterly inapplicable to the phenomena of life. Chemical affinity has only a subsidiary action here, and that to a very limited extent; it is another kind of chemistry that obtains among living things. All this complicated frame is made up of pores of various diameters and various lengths, each system of which has actions of its own; how important then it is to understand the laws which all these systems obey, and the specific modification there is in each distinct secerning organ. Aided by such knowledge, with how much more confidence should we not approach the bed of sickness, and administer remedies, of whose mode of action we had some idea. Vitality, the recuperative forces, sympathy, antipathy, trains of morbid associations, and a thousand other obscure expressions which darken counsel with words without meaning, would vanish from medicine; and where all is obscurity and falsehood, all would be light and truth.

Nor should we alone know what is the normal condition of an organ, and what the true mode of restoring it when in disease. Physiology and the practice of medicine would not only reap the benefit of these investigations; they would also corroborate and substantiate the discoveries of the microscopic anatomist. Nay, more, they would teach him beforehand what kind of structure he might expect to find, for structure could be predicated from its effects. A watch, or other delicate machine that has stopped, might perhaps be made to move again by the rude jolting and shaking of a most ignorant man; but to find out the cause of its derangement, and to reinstate it fairly and

without damage in its former integrity, requires one who knows its springs and wheels, their reciprocal action on each other, and the end they are to accomplish. We might perhaps smile at the rough attempts of such a pretending mechanic; but when we reflect that all the operations of our own science as physicians are carried on upon principles that are empirical, and directed to act upon organs whose offices and modes of action are for the most part unknown, the verse of the Roman poet may not be without application:

"Quid rides? mutato nomine de te,
Fabula narratur."

On the importance of extending our knowledge of these actions, I need not insist. The fabric of the living body presents us with a series of catalytic and capillary actions, from the *monas termo* up to man. Where is the plant, the tree, the animal, that does not furnish us with a crowd of problems of deep interest, and all of this class? Whilst philosophers have succeeded in tracing the phenomena of excited amber, or of the magnet, to their last cause, and have reproduced a series of results striking and impressive, they have neglected the study of pore action and capillarity. It is true that of the latter we are possessed of a mathematical theory, which gives us expressions of a large series of facts, but it is to the experimental chemist that we are to look for a history of the causes which bring about a developement of simple vesicles into compound structures; he must furnish us with a theory of the functions of tissues and their decomposing powers. Parting from the mechanical doctrines of the conditions of equilibrium and movement, he must give us instruction into the play of tubal arrangements—must develope to us their catalytic action, and teach us how capillary systems act and react on one another. Until all this is done, we are to look upon the science of life as imperfect; and surely there is no problem whose resolution is more seductive, or will confer greater benefit on the human race, than this: it is the fundamental problem—the keystone of physiology.

Of how many millions of pores and tubes are not our organs composed? and yet we are in utter ignorance of the action of these arrangements. Some vague ideas of filtration, and straining, and percolation, are all that we possess. Our philosophy would teach us that there is but little difference between a man and a sieve. We forget the uniformity of secerning action—the production and invariability of definite compounds. Conceal it as we may, there is a chemistry of life, and of that chemistry we know nothing.

It has sometimes happened to me to hear well educated physicians deplore the narrowness and obscurity of our physiological views.

They forget that this arises from the course of investigation which we have pursued. We have attempted to solve the highest and most difficult problems, without a knowledge of the very data of the science. What was astronomy, so long as its cultivators employed themselves in developing its more intricate and complete phenomena? The motions of the stars, beings that seemed instinct with life, were involved in cycles and epicyles; the appearance of a comet struck terror into nations, and the occurrence of an eclipse was the harbinger of the dissolution of empires. But Newton began with investigating the fall of an apple to the ground; and, tracing up the conditions of that humble experiment, finally reduced all these intricate gyrations to simple laws, and showed that these complex evolutions were the result of a harmonious motion. So, too, physiology must begin with the philosophy of pore action: the doctrines of change by presence must be developed, the action of tubal systems must be discovered; and then, and not before then, it will take rank as an exact science.

Hampden Sidney College, Prince Edward Co., Va., Sept. 1837.

ART. VIII.—*Case of Worms in the Urinary Bladder.* By HARVEY CAMPBELL, M. D., of Johnstown, Windham county, Conn.

I am induced to offer the particulars of the following remarkable case for publication, from having noticed in the thirty-ninth number of this Journal, the details of a somewhat similar case by Dr. Brigham of Hartford, wherein he asks, "are not such cases more frequent than is generally supposed?" In July, 1825, I was called to visit Mr. John Hunter of this town, aged 67, who for three or four years had been affected with slight and occasional interruptions to the flow of urine, which, for the last few weeks, had increased in severity, causing great pain in evacuating the bladder, and which now amounted to an entire obstruction. Until the time I visited him, he had taken nothing but a few domestic remedies of his own prescribing, which, until very lately, had procured relief. I immediately evacuated the bladder by means of the catheter, and, on withdrawing it, I observed a very small red-headed worm sticking to the end of the instrument. This worm was about half an inch in length; its body was made up of numberless minute cartilaginous rings, and supplied with a number of legs, arranged in two distinct rows from one extremity to the other. The catheter was employed, daily, for about three weeks,

during which time some thirty worms of the above description were passed, some through the instrument, others were found sticking to it when withdrawn, and a few were observed to pass the urethra, after the use of the catheter was dispensed with. By the regular daily evacuation of urine, and an appropriate use of the terebinthinates, in about one month the bladder was apparently divested of its vermicular occupants, and restored to its former healthful tone and action. This case is less calculated to excite our wonder from the consideration, merely, that worms inhabited the bladder, than from the reflection that this viscus, and its contained urine, so apparently unfitted for such an occupancy, that it will almost stagger credulity herself to believe the fact, should become tenanted with animals of the description here given. These worms belong to a hardy race. They were hard, very active, strong and wonderfully tenacious of life. Nitric acid would destroy them in two minutes, but they would retain all their activity and energy when immersed in oil of turpentine for the space of two hours. I enclosed two of them in a quill which I carried in my pocket, intending to ascertain the length of time they would live in such a medium. At the end of four weeks they were as lively and vigorous as ever, but how much longer they would have thus lived I have no means of knowing, for while exhibiting them to a friend in the open air they were blown away by the wind and lost, and here my experiment terminated.

I am not aware that there are many cases of worms in the urinary bladder on record. That worms of the description here given should exist in that organ and be capable of surviving for such a length of time in so many different and adverse media, some of which are apparently the least capable of sustaining life, must be new to many members of the profession. Indeed, it almost surpasses belief that a worm generated in the bladder and existing in the urine, which must be considered its most natural element, should be capable of retaining life and vigour for the space of four weeks, when enclosed in a quill containing nothing but atmospheric air. Nature seems to have departed from her ordinary rules in this and similar anomalous cases, and we are left to wonder and admire at what we cannot elucidate or explain. I am not naturalist enough to designate the genus or species to which these worms belong in the animal creation, but I very much doubt whether worms of a like character have ever before been known to generate or exist in the living human system. But although they have not been *known* to exist, still they may have existed frequently and passed away unobserved; and in the case before us, had it not been for the necessity of employing the catheter, these

same worms might, from their diminutiveness, have passed off unobserved. It will be observed that in this case and all others upon record, where worms have been found in the bladder, that symptoms like those of stone have prevailed,—irritation at the neck of bladder, difficulty and pain in making water, and in the case of my patient, a total obstruction of urine. A diseased condition of one or more of the urinary organs is undoubtedly requisite to the formation of worms. The diagnosis must be obscure and difficult, and cannot be determined except by ocular demonstration.

I should consider the prognosis favourable and the therapeutic indications simple. Dr. Brigham attributes the removal of the worm, in the case detailed by him, to "the disturbance of it by the repeated and thorough examination of the bladder which he made a few days before it passed." To the same cause, more than any other, do I attribute the removal of the worms in the case of my own patient, as the catheter was employed daily, and no other means made use of, excepting that diuretics was administered, consisting chiefly of bals. copaivi. Independently of the supposition which I believe and adopt, that the worms were originally formed in the neck of the bladder, the position of this viscus, with the aid of gravity and the frequent passage of the urine, all contributed towards concentrating them at this point, where, by the repeated introduction of the catheter, they were disturbed and loosened from their attachments, to be carried off with the urinary discharge.

In an obstinate case, injections of oil of turpentine, or some other perturbating liquid, frequently thrown into the bladder, as was practised in the case detailed by Mr. Lawrence in the Medico-Chirurgical Transactions, would undoubtedly hasten the removal of the worms.

Although the urinary bladder would seem to be a very unnatural location for worms, and the urine, from its chemical properties, would appear to be a medium very inauspicious to their growth and developement, yet as they have been known to exist there, and to have caused symptoms like those of gravel and stone, and been productive of inflammation, irritation and spasm, in the neck of the bladder, &c.; add to this the consideration that worms, especially small ones, may be evacuated from the bladder without the knowledge of the patient himself, or, if known to him, the fact may still be unknown to his physician or any one else; and in the case related by Dr. Brigham, there is no evidence from the account that his patient made any one acquainted with the fact, that two worms were once expelled from her bladder, until twenty-one years afterwards, when she expelled a third, but for which, one case at least of this rare and singular malady

would have never been reported. Add to these considerations likewise the fact, that within a period of twelve years two cases of this disease have been detected in a single state, one by Dr. Brigham and the other by myself; and I think we are fully warranted in the belief that this disease is more frequent than is generally supposed.

The profession in this country are generally too negligent in making reports of anomalous and instructive cases. There is no physician of experience, from Passamaquoddy to St. Mary's, who has not met with many cases of disease, which, if correctly reported, could not fail of advancing the interests and usefulness of the whole fraternity.

Voluntown, Conn., Aug. 24th, 1837.

ART. IX. *Case of Rupture of the Urethra without external wound.* By SAMUEL WEBBER, M. D., of Charlestown, N. H.

I was requested, on the 6th of May, 1829, to visit E. Harlow, a farmer in the adjoining town of Springfield, Vt., and to take with me some catheters of different sizes. Upon my arrival at the place, I found Drs. Cobb and Crane in attendance, and learned from them that the patient, on the afternoon before, while standing upon the top of a rail fence, had slipped and fallen with a leg on each side of the fence, receiving a severe bruise in the perineum. He had not passed water since, and was now suffering severely from the retention.

Upon examination I found the scrotum and perineum somewhat swollen and discoloured, with much tenderness. I selected a middle sized catheter and attempted to introduce it into the bladder. After passing it a little beyond the arch of the pubis, the passage was impeded, and it required considerable manœuvring to overcome the difficulty. I was finally successful, though when the instrument passed on it conveyed a sensation as if it was passing through some soft mass like coagulated blood, instead of along a free channel. Farther on, near the neck of the bladder, the difficulty was renewed, and being fatigued by a hurried ride and long stooping over the patient, I committed the instrument to Dr. Crane, who, after a little while, succeeded dexterously in passing it into the bladder. The urine was freely evacuated, and the patient appeared much relieved. Agreeing with his attendants upon the propriety of the antiphlogistic treatment proposed, and leaving the catheter with them for future use, I then took my leave.

Four days afterwards I was again summoned in haste. I found the left side of the scrotum enormously distended, slightly purple in colour, except at the lower part, where there was a black spot, of an oval shape, and from half to three-quarters of an inch in diameter, evidently in a state of gangrene. The patient was in great pain, and I suggested to Dr. Cobb, who was in attendance, the propriety of immediately opening the scrotum. He consenting, an abscess lancet was freely passed through the black spot, which gave vent to a pint of thick black fluid, of a very fetid smell, and apparently composed of a mixture of putrid blood and urine. I found, upon inquiry, that the urine had been drawn off regularly twice in the twenty-four hours, but that the enlargement of the scrotum had come on a day or two after my former visit. The patient had, several times after that, made attempts to pass water, without voiding it, though he experienced the feeling of its passing from the bladder. Hence I concluded that, by the fall, an opening had been made from the urethra into the scrotum, and in these attempts the urine had passed into the latter. This was ascertained by passing a catheter into the bladder, and introducing a probe through the opening in the scrotum; the probe being thus made to touch directly upon the catheter, a little behind the pubis. The catheter was left in the urethra, the scrotum enveloped in a fermenting poultice, and the patient put upon a light nourishing diet, with quinine and wine in small quantities. In two or three days the slough on the scrotum separated, without having increased in size, and by means of the large opening it left we could plainly see the silver catheter shining through a ragged opening in the urethra about half an inch long. The edges of this opening were slightly touched, two or three times, with nitrate of silver, introduced through the scrotum by means of a quill, and in about a fortnight became united firmly. In a week more the opening in the scrotum also closed, and the patient resumed his usual pursuits.

Charlestown, N. H., August, 1837.

REVIEWS.

ART. X.—*Surgical Observations on Tumours, with Cases and Operations.* By JOHN C. WARREN, M. D., Professor of Anatomy and Surgery in Harvard University, and Surgeon of the Massachusetts General Hospital. 8vo. pp. 607. Boston: Crocker & Brewster. 1837.

Mr. John Bell, in his introduction to his surgery of tumours, has urged the very appropriate injunction, to disregard no tumour because it seems harmless; "for never is such a disease more dangerous than when the patient is dismissed with some trivial prescription, and referred with dark and doubtful prediction to 'the coming on of time.' Allow no poor petitioner for your advice to depart without some share of notice, for the tumour which he hides under his side-lock or cravat is, perhaps, at no distant period, to cause his death; never, unless for special reasons in consultation, or otherwise assigned, suffer a tumour to grow uncontrolled, unless it be seated merely in the skin, or under the skin, for in every other part it endangers life." The importance of the advice here given, and the fatal consequences resulting from a neglect of it, must have been felt or witnessed by every one engaged in extensive practice. There are perhaps few such, who, on reviewing their experience, cannot call to mind instances of tumours, at first deemed trivial, which by neglect had grown in importance, until by their encroachment upon parts essential to life, or their ravages upon the organization, they assumed a condition putting all the resources of art at defiance, and marching with relentless strides to a fatal termination. Yet there is, perhaps, no part of surgical pathology and practice so much neglected; and notwithstanding the daily occurrence of such morbid developements, and the several attempts which have been made to portray the distinctive characters of each, every one, much conversant with surgical practice, must be constrained to confess, that as yet we possess no indications, in very many cases, by which the harmless can be distinguished from those of a malignant character; that the information we have acquired relative to the pathology of many tumours is extremely meagre and unsatisfactory; and that surgeons of the most acute judgment, and extensive experience, are often embarrassed in deciding upon what cases should be submitted to an operation, and what left to run their course, as being of a nature not to be controlled by art.

These considerations are well calculated to excite an interest in every attempt to shed new light upon a subject of such vital interest

to humanity. It was, therefore, with no ordinary feelings that we opened the work which forms the subject of our remarks, and we are satisfied that our readers, in common with ourselves, will hail with extreme gratification, a work on a subject of so much importance, emanating as it does from one of the most distinguished and experienced surgeons of our country, and containing the results of his own observations.

Our author, in his preface, informs us, that while it was not his intention to make a compilation from books, he has not, designedly, omitted to avail himself of the labours of the able and distinguished men who have done so much for the advancement of this branch of science. He also informs us, that in the execution of his task, he has been led to introduce such general remarks as were necessary to connect together the histories of particular cases, and to these, a concise account of the treatment applicable to each disease, has been added.

In the introduction, the author offers some judicious remarks on the causes, diagnosis, and classification of tumours, but which we have to regret are altogether too brief to furnish adequate information upon these topics. The most simple idea of a tumour, he represents to be, "an unnatural enlargement in some part of the body." "But," he subjoins, "is this enlargement an increase of a natural part, or a new formation? If the former, we might expect it to consist of a texture similar to that in which it originates. If the latter, how can we explain that the vessels of a part, should generate a substance different from that part?" John Hunter's definition, that "a tumour is a circumscribed substance produced by disease, and different in its nature and consistence from the surrounding parts," he considers the best, but liable to objections not easy to be obviated by any other that can be offered.

In relation to the causes of tumours, Professor Warren gives us no very satisfactory information. In order to insure their developement, he thinks some peculiar state of the constitution is necessary, as in some individuals a blow will give rise to such an accident, while in another, no such consequence would follow. Effusions of lymph, he thinks, may prove a cause of tumours, but remarks that such effusions often take place, without any tumour being produced. Chronic inflammation is mentioned as another cause; but the author has refrained from entering into any disquisitions relative to the modifications of nutrition and secretion, which are instrumental in giving rise to such morbid growths. The hypothesis of Hunter, that a clot of blood, by becoming organized, may grow progressively, so as to form a tumour, is not entitled to confidence, and is not believed by enlightened pathologists of the present day; nor does it, in our opinion, derive any weight from the case cited by our author, in which a clot of blood was found encysted in the centre of a tumour of the mamma. Upon this subject, we may state, with a recent writer, in general terms, that the concurrent conditions of a tumour are: 1. A certain morbid productive power. 2. A material possess-

ed of this formative faculty. 3. A collection of fluid poured out by the part: and 4. A change of relative position. Some, or all of these conditions, are present in every tumour; and, reduced to their ultimate element, they will be found to be referrible to some modification of nutrition or secretion, or both, which has its origin in a change of the vital properties. What this latter is, cannot be certainly ascertained, but it is probably as variable as the products to which it gives origin.

The author, while he admits that valid objections may be urged against the method he has pursued in treating his subject, prefers the plan of considering tumours according to the textures they affect. He does not, therefore, attempt any scientific classification of these productions; but beginning first with tumours affecting the textures of the skin, he takes next those of the cellular membrane; then the muscular, the fibrous and osseous; the glandular, the vascular, the mucous, serous, and synovial; and, finally, tumours composed of different textures, and not found exclusively in any—the encysted. These subjects are treated in fourteen sections, composing the body of the work; the last of which is appropriated to tumours of the abdomen.

The first section is devoted to the consideration of epidermoid tumours, under which head the author enumerates *verruca*, *clavus*, and *icthysosis cornea*. The first, or wart, we shall not notice; and clavus, or corns, may by many be deemed too unimportant to deserve attention. There are, however, few diseases of such apparent insignificance, that entail so much suffering. We are induced to make a passing remark on the subject, in consequence of the following case. A lady was affected with inflammation of the foot, supposed by her to be brought on by taking cold from wetting her feet.

"After visiting her once or twice, a small aperture was seen on the upper part of the first joint of the great toe, and a fluid issued from it, which seemed to be a mixture of pus and synovia. The skin was indurated and thickened."—p. 17.

The discharge which took place in this case, the author thought proceeded from the cavity of the joint, in consequence of a communication having formed with it. We would suggest a different explanation. Two or three years ago, while engaged in some investigations relative to the pathology of the epidermis, as connected with the morbid alteration now under consideration, we discovered beneath each corn, and directly over the knuckles of the affected toes, a small subcutaneous bursa, consisting of a perfectly closed sac, smooth upon its inner surface, which was lubricated by synovial fluid. These bursa were precisely similar in appearance to those which are found beneath the skin over the patula, the olecranon process, and the greater trochanter. This pathological fact, which at the time we considered new, we have since found noticed by some of the older writers; and in subsequent investigations we have found, in almost every instance, that corns seated over the joints of the toes, have such bursa beneath them. It is, doubtless, owing to this arrangement, that such productions are often so exquisitely painful; the pressure of the hardened

epidermis having a tendency to rub the opposite surfaces of the subjacent sac against each other, and thus keep up constant irritation and inflammation.

Icthyosis cornea consists in the production of horny tumours, or excrescences, from various parts of the body. A respectable woman from the country, thirty-five years old, was affected with tumours of this kind, from the size of a pea to that of a body an inch in length, and three-quarters of an inch in breadth. She had two or three on the forehead very large, and some small. They appeared like conical horns forcing their way through the skin, surrounded by circles of a red colour, while the rest of the skin was pale and delicate. The horns were constantly falling off, and regenerating in the same places, while new ones also appeared in other places. She had been married; was the mother of children; but never had any venereal disease. She had suffered from disorder of the digestive organs; was feeble; but kept her bed rather from weakness, than from stiffness of the limbs. She finally went into the country, and died. The disease, our author thinks, is incurable.

Tumours of the dermis are arranged under three heads, *Lepoides*, *Keloides*, and *Eiloides*. Of these, some are considered malignant, while others possess no such character. Professor Warren remarks, that there are two classes of malignant diseases which are well known to be of that nature: they are, carcimona and fungoides; the most striking character of the first being *hardness* and *ulceration;* while the second is distinguished by softness and bleeding. Melanosis, he states, he has seldom found to possess a malignant character, and this accords with our own observation, although we have seen several exceptions.

Lepoid* tumours are characterized by a "scaly crust, or bark-like roughness of the skin. The scale of the cutis is most commonly seen in the face, especially of aged persons. It is an irregular tough crust, of a brown colour, which might be mistaken for a wart." It first appears like a discoloured speck, or piece of earth; this falls off, and is renovated in the same form, for many successive years. Sometimes the detachment of the crust exposes a new cuticle beneath, which gradually thickens. Occasionally the denuded surface exhibits a spicular aspect, and throws out an ill-conditioned pus, which dries in form of irregular scales. It may finally ulcerate, and form an incurable sore, or cancer of the face. Its tendency, however, is to advance slowly, without much pain, and without contaminating any parts, but those in contact with it. The proper remedy, our author thinks, is extirpation; and this may be done either by the knife or caustic. The former should be preferred; but the arsenical paste, powdered nitrate of silver, vegetable caustic, or the potassa cum calce may be employed. The last is preferred by Professor Warren. It is applied in the manner usually resorted to for establishing issues.

Several cases of the disease are detailed by the author, but we shall

* Λεπος, Bark.

be obliged to pass them over. Plates I. and II. furnish examples of two of these. In one of them, the disease was seated by the side of the nose, involving the eye. In the other, it was situated over the knee, and formed a tumour of a circular form, three inches in diameter, and one inch in thickness.

Under the title *keloides*, the author has placed three varieties: "1. A white permanent elevation of the skin. 2. The spider like pimple of the face. 3. The keloides of Alibert," by whom this term was applied to a production of the skin, having red vascular processes extending from the tumour, and giving it the appearance of crabs' claws.

The first variety resembles the cicatrix of a burn. There is an elevation of the skin without any discoloration, except a slight one at the margin; nor is it sensible or painful; but it is remarkable for its disposition to grow after extirpation, and for the difficulty experienced in eradicating it. It occurs in disordered habits, after operations for the removal of small tumours; as a consequence of injuries inflicted upon the skin; and sometimes without any manifest cause. Such tumours, we have observed, are much more apt to occur in negroes than in white persons, and in such persons they have been known to follow the pustules developed by tartar emetic ointment. A few years ago, we removed a tumour of this kind from between the ear and the side of the head of a negro: in a short time it was reproduced. We again removed it with the greatest care, dissecting away all the adjacent skin and cellular tissue. In a few weeks, the tumour was as large as before, and presented the same appearance. Such tumours are smooth and glossy upon the surface, and of a firm fibrous consistence. They have nothing of a malignant character; and although liable to recur, as was the case in the individual just mentioned, they may sometimes be extirpated with entire success. Professor Warren has given cases in which they did not return after having been carefully extirpated.

The second variety of keloid tumour, mentioned by our author, is a small red pimple, appearing most commonly on the face; radiating red processes into the surrounding skin. At first there is no pain, or any uneasy smarting; but after it has continued for years, it assumes a prickling, and finally a burning pain; increasing in size, ulcerates, and assumes a cancerous character. This change, however, only takes place in advanced life, and probably never in children or young adults. Such tumours should be removed by the knife or caustic.

The third variety, according to Professor Warren, is a more troublesome and dangerous disease.

"Like the first, it resembles, in the early stage, the scar of a burn. In colour it is more red than the surrounding skin, and shoots out red vascular processes, which give it the crab-like form. The elevation is not great in the common form of the disease. It is sensible to the touch, and is attended with a burning pain. The parts which are most frequently its seat, are the back, shoulders, and neck. On dissection it exhibits a white fibrinous appearance, much like the scirrho-cancerous deposit in the female breast. The most remarkable fact about it is the disposition to regenerate after removal. This may happen a number of times; and eventually it may ulcerate and become a malignant sore.

The following is a case of true keloides. Miss B——, of Worcester, six years since perceived a small rising of the skin on the left shoulder, accompanied with a stinging, burning pain. This tumour increasing gradually, she had it cut out. As soon as the wound healed, the rising of the membrane showed that the disease was regenerating. After some time it was again removed, and the edges of the wound brought together by three stitches. When it again healed, the same disposition to a rising showed itself. The tumour, when I first saw it after the second operation, was about two inches long and half an inch wide; of a slightly red colour; raised from the surrounding skin like the scar of a burn, and a small red projection extending from its edge. A burning and shooting was felt in the parts. At each of the points where the needle was passed through, there was a little rising, similar to the first, and about the size of a pea's head, and quite red. So that instead of one tumour, there were seven."—pp. 44, 45.

Eiloides is a term applied by Professor Warren to a spring of tumour, presenting the appearance of coils, like those of a rope.* This seems to be a rare form of disease, and the author remarks, that he had only witnessed a single example, that which is delineated in Plate IV.

"It is a true production of the cutis, and continues so throughout its growth, although it may become very large. The first appearance of it is, an elevation of the skin, similar to that from a burn—without pain, redness, hurt, or ulceration: it increases to a great size, and ultimately effects the patient's health. If removed, it is reproduced. A scrofulous habit seems to predispose to it."—p. 48.

The tumour observed by the author, presented the appearanee of a triple coil of inflated intestine, each roll being four inches long, growing by a narrow base from the side of the neck. The subject of it was a negress, aged 15 years, and at the time of applying for advice, she was not much disordered in health, although she had not been perfectly well. The tumour was carefully removed by Professor Warren, but returned, when refusing to operate a second time the tumour was again extirpated by another gentleman. It was, however, shortly reproduced, grew rapidly, and the patient's health failing, she died dropsical. The lymphatic glands of the abdomen were found enlarged, and the liver diseased.

A case of the same kind, our author suggests, is that of Eleanor Fitzgerald, reported by John Bell. Another has been described in one of the volumes of the New York Medical Repository, and we have ourselves seen one. The records of the science contain several similar examples. The character of such tumours, does not probably differ, pathologically, from the keloides already described. In both affections, the skin is the primary seat of the disease; they are both prone to recur when extirpated; and in the one, as in the other, the diseased mass is of a firm, fibrous consistence, with which the skin is identified.

We shall pass over the next section, which treats of tumours of the cellular tissue, as it contains nothing requiring comment or particular notice. The tumours mentioned, are the adipose, cellular, and painful subcutaneous tubercle. A very distressing example of the last disease is mentioned, in which the health of the patient suffered so much as to demand amputation, by which he was finally restored to health. An example of common steatoma, is mentioned by the

* From Ειλω, to coil.

author, weighing upwards of twenty pounds, which was removed from the back of the neck, by Dr. Miller, of Providence.

The next subject noticed, is mucular tumours. These are less common than those of the cellular and osseous textures, and the diagnosis is often difficult. Such tumours are generally less moveable than those which are seated in the cellular tissue, and their outline is not so well defined. Their mobility is always least when the muscles are firmly contracted, and greatest when they are relaxed. They of course differ greatly in their character; but our author has confined himself in the cases which he has detailed to those of a melanotic scirrhus and fungoid nature.

In the first case, there was a tumour of a melanotic character, seated in the substance of the rectus femoris muscle. It was as large as a hen's egg, and had existed six months. When the muscles were relaxed, it was moveable in a lateral direction; but it was perfectly fixed when they were contracted. It was free from pain or tenderness, and on examination after it was removed, it was found to be composed principally of hard, dark coloured, muscular substance; and its nucleus consisted of an osseous shell, an inch in diameter, containing a dark coloured fluid, and lined by a black crust.

The next is an example of scirrhous muscular tumour. A shoemaker, while holding a shoe against the breast, the shoe slipped under the pressure, and hurt him over the cartilage of the sixth rib. A small swelling was discovered next day, which increased in size, until, at the end of twelve months, it reached from the upper edge of the cartilage of the fifth rib, to the lower edge of that of the eighth, and acquired the breadth of six fingers to cover it vertically, and four to cover it transversely. Its breadth lay from the meridian line to the left, beginning from the linea alba. The tumour had the hardness of a periosteal tumour, but the skin exhibited no change of colour, being traversed merely by numerous enlarged veins. There was a degree of sensibility on the edge of the cartilage of the fifth rib, and at some other points. The tumour could be moved in a lateral, but not in a vertical direction, and there was a sensible pulsation, but no vibration. There was some obscurity in the diagnosis. It resembled osteo sarcoma, but wanted the hardness. Was it a disease of the muscles, or of the perichondrium? Might it not be a projection from an internal aneurism? Did it lie on the outside of the ribs, or might it not extend inwardly, as well as outwardly? for there was an obvious dip of the tumour below the edges of the cartilages, into the epigastric region. The opinion formed by Professor Warren was, that it was a tumour of the rectus muscle; an opinion derived from the first examination, when it was smaller and less hard than it afterwards became.

The operation was performed in the following manner:

The patient being placed on a table, an incision, seven inches long, was made from the fourth rib downwards, and the anterior face of the tumour was exposed by dissecting away the integuments. Its face being laid bare, exhibited a bluish colour, and was of a scirrhous hardness. Every stroke of the knife around it, was followed by a copious flow of blood. When the circumference of the tu-

mour was uncovered, its edges were found to be quite undefined and concealed by the muscular connexions. These being cut through, I was able to discover an ill defined edge, and proceeded with the knife under this edge, and soon found I could detach the tumour from the faces of the cartilages; pursuing the dissection altogether by the touch, as the streams of blood and the hardness of the tumour prevented an inspection of the parts beneath. The operation proceeded favourably, till the tumour turned down over the cartilages into the epigastric region. Here it was obvious that if it involved the internal oblique and transversalis to the extent it did the external oblique and rectus, the incisions would penetrate the cavity of the peritoneum, especially if this membrane adhered to the inner face of the tumour. Such was found to be the fact. The two inner muscles formed part of the disease; the peritoneum adhered to it for about an inch, and not having the advantage of ocular inspection, it was of course difficult by feeling to make a nice dissection of the adherent membrane. This was, however, accomplished, and the whole disease was removed in one mass. Four large arteries, and many smaller ones, required ligatures. The patient suffered much when the tumour was raised, from its drawing the peritoneum outwards. This part of the operation was short, and as soon as it was concluded, he ceased to suffer severely. The wound was closed, leaving an outlet for the sanguineous oozing.

The patient had a smart fever after the operation, and a slight degree of peritoneal inflammation, which was relieved by two or three bleedings. His symptoms afterwards were perfectly favourable, and the wound healed in the third week.

On examining the tumour, it presented a cartilaginous hardness. Its surface on all sides was composed of the muscles between which it lay. Its substance consisted of a brownish texture, in which a multitude of granulations, the sixteenth of an inch in size, presented, with intermixture of a fibrous arrangement. At one point there was a softening, as if suppuration were about to begin. At another a dark red spot was seen. The internal or epigastric part was equally hard with the rest of the tumour. The surface of the cartilages was deeply depressed where the tumour had lain.

The obscurities of this case were not removed till after a careful examination of the tumour, and a consideration of the circumstances connected with it. The shining appearances of the external oblique muscle in a perfectly healthy state, though intimately connected with the tumour, showed that this was not the original seat of disease. The cartilages of the ribs were indented, but healthy. The internal oblique and transversalis were closely connected with the inner face, but quite apart from the tumour at its origin. The rectus muscle, on the other hand, was in the situation of the first prominence caused by the injury. The texture of this muscle was wholly absorbed in the tumour, and no vestiges of it remained. The tumour itself consisted of a mixture of granulated and fibrous organization, such as is seen in scirrhous tumours of various organs.—pp. 68–71.

A case of malignant melanosis is next described. The tumour was situated between the base of the scapula and spine, and involved the trapezius and rhomboideus muscles. Its centre was hard, and its whole interior as black as ink. The patient recovered from the operation, and went home apparently well; but about six months afterwards, the disease re-appeared, with the symptoms of a cancerous affection, and proved fatal.

Fungus hæmatodes of the muscles presents the same relentless character exhibited by this formidable disease when it attacks other parts of the body. Professor Warren details several cases, which fully confirm the truth of this assertion. In two of these, amputation was resorted to, but in only one with success; the disease having recurred in the other, and proved speedily fatal. In all the other cases a fatal termination ensued.

Under the title "Tumours of the fibrous texture of the tendons,"

we find a case detailed of too much interest in a therapeutical relation, to be passed over. The patient was a clerk, eighteen years old, possessed of great muscular power, who, in attempting to perform the feat of raising himself from the ground, while sitting with his lower extremities extended, injured the flexor muscles of the leg. No inconvenience was experienced at the time, but two or three weeks after the act, he perceived a weakness about the knees, and on examining, found a slight hardness along the tendons of the flexor muscles. He continued to move about, but the tumours and lameness increasing, having previously exhausted his faith in "bone and sinew doctors," he applied to Professor Warren for relief. A hardness of about four inches in length, and nearly an inch in thickness, was now found along the course of the tendons of the biceps muscles, principally seated on the inner edge of the tendon, and partly along its posterior face. When the muscles were contracted by an effort to raise the leg, the patient lying on the face, the tumour became of a stony hardness. When they were relaxed it was less obvious. No distinct uneasiness was caused by compressing the part; but the patient could not walk more than a few steps. After being informed of the difficulty of effecting a cure in such cases, and the necessity of great firmness and perseverance, on the part of the patient, the individual expressed himself ready to submit to the requisite treatment.

He was then informed that he must prepare himself for a confinement of at least a year, possibly of two years or more. He was directed to keep in a horizontal posture on a bed; the knees to be slightly flexed, and supported in this posture, and never to be moved, excepting passively. Twelve to eighteen leeches every fifth day for the first six weeks. Occasionally a purgative. No animal food, and the quantity of food limited. I heard no more from him for five months. He then sent for me. I found him pale and emaciated. He had severe pains in the bowels, and frequent bleedings at the nose. He had followed the course directed in every particular. I expressed my surprise that he should have undertaken to proceed so long a time, without giving me an opportunity of accommodating the treatment to circumstances. He apologised by intimating that being compelled to relinquish his occupation, he was without means of defraying more than the expenses of subsistence. From this time, I attended him regularly. I should have mentioned that the tumours were sensibly diminished. He was now directed to take a little meat twice a day: to drink from four to six ounces of wine, and forty drops of tincture of sulphate of quinine every two hours. Whenever the abdominal pains were urgent, to take thirty drops of tincture of opium. Under this management he recruited slowly; and at the end of four weeks the wine gave him head-ache, and was discontinued. Animal food was continued a month longer, and then, seeming to disagree with him, was omitted. He now resumed the original course, with the exception of substituting injections for purgatives, and sometimes taking a little meat. After eight months confinement, he was directed to use frictions of a stimulating liniment, and to have the limbs bathed twice a day in hot water and soap. Find the tumour lessening regularly, when he had been confined a year, I directed him to bandage the whole limb, and to get out of bed once a day. This was followed, after two or three weeks trial, with a thickening of the cellular substance between the hamstring muscles; in consequence of which he was put on the bed for a month longer, and then advised to get up and walk the room once a day. At the end of fifteen months, he was able to walk a quarter of an hour at once. I now urged him to walk out; but his apprehension of re-producing the disease was so strong, that it was sometime before this could be effected. At last he got

out, and increasing his walks very gradually, in three months he was able to walk to my house; and I had the satisfaction to find that all remains of the swellings were wholly dispersed. Since then he has recovered his strength, and is now perfectly well.—pp. 92-4.

The disease mentioned by the author under the appellation of "*Fungus non Hæmatodes*," is one which has always given us much embarrassment, in our attempts to give it a scientific location. He speaks of it as a vein tumour; in consistence soft; in extent variable; of a white colour; usually seated deep among tendons and muscles, and of a fungoid texture, breaking in pieces under a very moderate force. It is not painful in its early stage, but is malignant; recurring after extirpation, and ultimately proving fatal.

In many respects, the disease to which we have allusion, corresponds with the "pancreatic sarcoma" of Abernethy, but as we have witnessed it, is far more malignant than the disease he has described under that name. It wants the encephaloid character of fungus hæmatodes, yet it is not unfrequently associated with that disease. We have, indeed, seen tumours presenting in different parts of their substance, all the characters of the pancreatic and mammary sarcoma of Abernethy, and the encephaloid tumour of the French; and as they all seem to partake of a malignant character, there is reason to suspect, that they are all modifications of the same species of organization. A few years ago, we attended a respectable elderly gentleman, in consultation, who had a tumour of the kind described by Professor Warren, nearly as large as the head of an adult, situated over the sacrum. After death, it was found that the whole of that bone, with the exception of the first segment, had been completely destroyed by the disease. We are at present attending a lady, whose arm we amputated at the shoulder joint, about six weeks ago, on account of extensive degeneration and enlargement of the member. A tumour of the kind in question has made its appearance beneath the clavicle, and the glands of the neck have become enlarged, so that although the stump healed kindly, there is reason to fear the disease will extend.

In treating of exostosis, Professor Warren follows sir Astley Cooper, in dividing it into periosteal and medullary. In the first variety of the disease, he recommends excision of the bone, which has given origin to the disease, whenever it is practicable. But if the excision should involve the sacrifice of the limb, he thinks it would be better to try the experiment of removing the exostosis first. We allude to the following case, partly on account of the details of the operation, and partly for the reason that it was followed by symptoms of suffocation, resulting from the retraction of the tongue, after the division of the antagonizing muscles—an accident that has occurred after the operation for amputation of the lower jaw, in the hands of Richerand and Magendie.

The tumour was of two years growth, and was situated principally on the left side, extending from the first bicuspid tooth, on the right, to the branch of the lower jaw on the left, and including four incisors, the cuspidati, two bicuspides, and two molar teeth. The tumour

was prominent like an egg on the outside of the jaw, and extended through the substance of the bone to its inside. It was of a bony hardness; occasionally painful, and interfered with speech and mastication; towards the last, it had increased rapidly; the habit of the patient was thin, and her constitution delicate.

"The patient was placed in a common chair, with the head on the breast of an assistant. The lower lip being made tense, was divided at the median line, and the incision continued as low as the edge of the thyroid cartilage of the larynx. A shorter incision would not have allowed the dissection of the flap far enough back to have uncovered the jaw near its branch. The right flap was then raised sufficiently to expose the jaw under the first bi-cuspid tooth. The left flap was next dissected from the tumour and from the digastric region of the neck; including the muscles in the facial part of the flap; and in the digastric part, the skin, cellular membrane, and platysma muscle. The dissection was continued to the left as far as the edge of the masseter muscle; the facial artery was included in the flap, and was not divided. The stump of the dens sapientiæ and also the first bi-cuspid tooth of the right side, were then removed. This being done, a narrow bladed knife was passed behind the bone, corresponding with these two teeth, and the soft parts carefully separated from the jaw. Then the bone was sawed through.*

The bone having been divided, appeared quite loose. I therefore seized it with the left hand, and proceeded rapidly with the separation of the tumour from the parts connected with its internal face, and here divided the left submental artery, the only one which required a ligature. About to sever the lowest remaining muscles, I perceived the tongue drawn back into the pharynx, and the patient in a state of suffocation. Immediately seizing the tongue with the left hand, I drew it out of the pharynx, and confiding it to a friend, completed the section, and prepared a large needle and ligature to transfix and secure the tongue. This happily was not necessary. After waiting five minutes, the spasmodic action ceased, and did not return. The parts were then brought together and secured by six sutures, two of them being on the surface of the lip, one without, the other within. An aperture at the lower edge of the wound was left to drain the mouth and wound; and some adhesive plasters and a light bandage, with but little pressure, completed the dressing."—pp. 113–115.

It may be well to mention, that in a case of exostosis affecting the right horn of the os hyoides, of a sugar loaf form, and about three inches in height, the father of the author, the late Professor Warren, dissected the tumour to the bone, and sawed it off near its base, and thus succeeded in curing the patient speedily and effectually. In another case, the author himself had an exostosis springing from the transverse process of the seventh dorsal vertebra; he sawed through the transverse process with a narrow saw, and removed the remainder of the process with cutting pliers.

Several cases of medullary exostosis are detailed. In some of these amputation was resorted to, as the only means of affording relief. In speaking of a case affecting the jaw, the author makes the following remarks, which we think it useful to extract.

"In the early periods of my practice, I removed the bone in these cases with

* The saw employed was constructed for the purpose, and had the following dimensions: length, two inches;; breadth, two lines; thickness, one-fourth of a line, handle, four inches long, rough and thick; end of the saw rounded. This is the best kind of saw that can be employed for this and similar operations. The chain saw and the bow saw cut more rapidly, but catch and cause delay and embarrassment. Heys' saw is slow and laborious in operation. The rotatory saws are unmanageable. I think a saw half an inch longer, that is, two and a half inches long, might have been better. The great difficulty in the use of the saw, in these cases, has led me to describe this simple instrument minutely, with the hope that it may be as useful to others as it has been to me. It is proper to have two or three of these saws, varying a little in dimensions.—p. 114.

the saw and chisel, and the operation was tedious and painful. In the year 1831, I first employed the cutting forceps, by which this operation was greatly facilitated. Since then, the ingenuity of my friend, Dr. Flagg, to which I have often been indebted, has greatly improved this instrument, in its application to the jaws. As the straight forceps are with difficulty brought to bear uniformly on the inside and the outside of the jaw, he gave to this instrument the hawk's bill form. One of these is made to cut vertically, and another horizontally, by which the two kinds of incisions are rapidly and perfectly made, and the patient suffers but little pain." —pp. 134-5.

The next subject we shall notice, is that of osteo-sarcoma. This is defined by the author, "a hard tumour, taking its origin from periosteum, or bone;" but when the author declares, at page 138, that "in all the instances of osteo-sarcoma, which have occurred in his experience, this tumour has appeared to have its origin in the periosteum, and not in the bone;" taking the results of our own observation as a guide, we should be at variance with him in our conclusions. We have certainly seen many cases of the kind mentioned by him; but in a greater number of instances, which we have had an opportunity of examining, the origin of the disease has been deeper seated—either in the reticulated texture of the bone, or, as sometimes happens, within its medullary cavity. The constituents of such tumours, he asserts, are then:—1. The bone on which the tumour is placed. 2. The periosteum, and 3. The medullary fungus, contained in the periosteum. To these must be added a fluid of varying consistence (most generally gelatinous) found in cells, in the interior of the periosteal cavity.

The first case detailed, is one of osteo-sarcoma of the lower jaw, in which the bone was sawed through near the symphisis, and disarticulated at the joint; one half of it being thus removed, the wound healed kindly, and the individual was afterwards "able to bite and chew completely."

The second case is one of osteo-sarcoma of the clavicle, (see this Journal for November, 1833, p. 17,) and is more interesting from its rarer occurrence, and the similarity it bears to one in which Dr. Mott, of New York, performed the operation of excising a portion of the clavicle, on a gentleman from Charleston, South Carolina. (See this Journal for November, 1828, p. 100.)

Passing over a very interesting case of osteo-sarcoma of the ribs, in which an operation was successfully performed, we shall next examine Section VI., appropriated to the consideration of "*tumours of the glands.*"

These tumours Professor Warren divides into three kinds:—1. *Tumours of lymphatic glands*; 2. *of secreting glands*; 3. *of mucous glands;* and suggests that a fourth division might perhaps be added, of tumours of *oleaginous* and *sebaceous glands*—tumours of the first set of glands are divided into scrofulous, scirrhous, and fungoid.

In reference to scrofulous tumours of the lymphatic glands, the author says but little; but in regard to scrofula generally, he makes the remark—one we fear which too many besides himself must acknowledge to be true—"that after many years' trial of the preparations of iodine, in various forms of scrofulous affection, I have rarely seen any very distinct advantages from it." Upon this point our experi-

ence is in accordance with his; and in this, as in too many other cases, we are pained to feel ourselves obliged to suspect, that numbers of the profession, in their zeal to increase the *armamenta medica*, or to gain a fictitious reputation, publish to the world statements in behalf of new medicines totally devoid of any foundation in truth. As relates to the present article, we may state, although not relevant to the subject of this paper, that we have within a short time administered iodine to a gentleman, in combination with starch, as proposed by Mr. Buchanan, in the Medical Gazette, to the amount of from fifteen to twenty grains daily, for a considerable time, without observing any effect on the constitution, either local or general, that could be with certainty referred to the remedy.

Scirrhous tumours of the lymphatic glands are either malignant or not malignant. The author has given cases illustrative of each form of the disease. That of Mary Litchfield, delineated in Plate IX., is an interesting example of the non-malignant scirrhus. This was a large tumour, occupying the right side of the face. From the zygomatic arch, it extended below the ear, which was raised by it to near the mastoid process; thence along the jaw to the chin, and thence upwards to the ala nasi; measuring around the base sixteen and a half inches, and from the ear, over the tumour, to the jaw, nine and a half inches. It was extirpated, and did not recur. This tumour is described as occupying the right cheek, yet in the plate it is represented on the left.

We extract the following case, as an instance of a difficult and dangerous operation, and in evidence of what may be accomplished by an operator versed in the anatomy of parts, and properly nerved by confidence in his own knowledge.

"Mr. S. H., a repectable farmer of Lincoln, was brought to me by Dr. Russell, about the first of March, 1837. He had a large tumour on the neck, extending from the spinous processes of the cervical vertebræ to the lower jaw, pharynx, œsophagus, and larynx, running upwards behind the ear, and downwards near to the clavicle. The patient, who was a healthy, good looking man, fifty-two years of age, told me the tumour had existed for thirty years. Within the last year it had increased rapidly; and of late had pushed his head to the opposite side; impeded the motions of the head and neck; caused dizziness, head-ache, and dyspnœa. On examination, I found it of a cartilaginous hardness, and quite fixed in its situation. The hardest portion extended from the origin of the sterno-mastoid muscle directly downwards, and there the patient said the tumour first appeared.

"After examining and considering the case, I conceived the following state of things to exist. Taking its origin in the lymphatic glands, behind the posterior edge of the sterno-mastoid muscle, it had extended backwards under the trapezius to the spine, and forwards under the mastoid to the pharynx. That it adhered to the splenius and complexus and trachelo-mastoideus, and involved the digastricus and all the styloid muscles. Of the blood-vessels, that it involved the external carotid artery, with its eight branches, excepting possibly the superior thyroid. Of the veins, the internal jugulars, and the accompanying branches of the arteries. Of the nerves, the three or four superior cervical, the par-vagum, sublingual and its descending branch, the glosso-pharyngeal, laryngeal, and probably the gustatory, and great symphathetic. Of the glands, the parotid and submaxillary. Of the canals and passages, the larynx, pharynx, the auditory passage, and possibly the œsophagus. * * * *

"The patient was placed in a chair, with his head duly supported. My wish was to have secured the carotid artery first; but perceiving the depth of this ves-

sel from the rising of the hard tumour on the outside, and the trachea on the inner side, an incision was made from the spine to the angle of the jaw, to meet another incision from this last point downwards, in the direction of the anterior line of the sterno-mastoid muscle. The last incision extending down the neck near to the clavicle. The flap thus formed, was elevated by a dissection, laborious from the close adhesion of the integuments to the tumour. This flap being turned down, exposed the posterior half of the tumour, a hard, knotted, bloody surface, extending from the spine near to the trachea, and showing the mastoid muscle firmly imbedded in the scirrhous substance.

"Next, having dissected the mastoid from its inferior adhesion to the scirrhus, the carotid artery was exposed and tied.

"The superior flap of integuments was then raised, and I attempted to disengage the mastoid muscle from the furrow it occupied in the tumour, in order to pursue the dissection under it. This was found impossible. The alternative then presented of cutting across this muscle and dividing with it the accessory nerve,—the consequence of which last, I was unacquainted with,—or else dividing the tumour through its middle part, behind the mastoid. The latter course was adopted. The scirrhous mass was cloven in two. The posterior half was dissected out, and it then remained to separate and disengage the anterior part from the posterior face of the sterno-mastoid from the digastric, the nerves and bones; including the parotid and submaxillary glands. The mass of the tumour was then happily removed from the parts just mentioned. Some portions adhering to the fore part of the bodies of the vertebræ and to their transverse processes, could not be wholly dissected without exhausting the patient's strength. The operation was therefore concluded by the application of the actual cautery to the last mentioned parts, with very little complaint from the patient."—pp. 177–181.

The individual, as was to be expected after such an operation, suffered some unpleasant symptoms; but at the time of the last report, was recovering.

The author has treated somewhat extensively of tumours of the breast, under the several varieties of hydated, chronic mammary, cartilaginous and osseous, scrofulous, irritable, adipose, fungoid, and scirrho-cancerous tumours. To follow him through the various details of this portion of the subject, would lead to an extension of this paper beyond its proper limits. It may not be amiss, however, to extract the following brief description of the anatomical characters of scirrhus.

"Examination of the scirrhous tumour, after being taken from the breast, presents different appearances, in different subjects, and different stages. When I have examined a specimen of small growth, and at an early period of its existence, proceeding from the surface inwardly, and scraping away the fat of the breast, a number of white processes are seen radiating from the central nucleus. These at first seem to be mere cords, but on observing further, they prove to be membranous prolongations from the central nucleus to various parts of the breast coming to the nucleus itself, this is found to be hard and irregular, and requiring an incision. Cutting through this hard body, we find it grows more firm as we approach its central point, where its hardness is very great. On examining the section thus made, we find the circumference of the nucleus constituted by a membrane or cyst, which has different degrees of distinctness, and disappears at one part where its scirrhous substance is continuous with that of the breast. The substance within the cyst is composed of granulated bodies, intermixed with a white mass of fibrous aspect and radiated direction. In some instances, the colour of the contents of the cyst is dark. The hard nucleus after a time softens gradually to the consistence of paste. An absorption of a part of it takes place, and in the cavity thus formed, there is a fluid of variable colour, either reddish, purple, or black. The nucleus itself, I have seen of a black colour, and forming a melanosis."—pp. 239–240.

Professor Warren adverts to a very important fact, deduced from an examination of the several cases which he has detailed: viz.

"The great amount of internal disease compared with those external appearances, which are believed to be the original roots of the whole. In some instances, where the breast had been removed, there were in fact, no remains of external disease, while of the internal organs scarcely one seemed to have escaped its ravages."—p. 276.

The poison, he thinks, may be transmitted by absorption, or sympathy. Contamination by the first process is seen in the inflammation of the lymphatic glands. But the affections of the internal organs cannot be so readily explained in this way.

"If," says he, "we adopt the second hypothesis, that of sympathy, we should expect to find the uterus always diseased in scirrho-cancer of the breast; also that the thoracic viscera would be more frequently diseased than the abdominal; which last is not the fact."—p. 277.

He suggests, as an inquiry in relation to this subject, whether the uterus is not the organ primarily affected in scirrho-cancer of the breast? This, he thinks not improbable, and if once admitted, the amputation of the breast would be less frequently performed than it is now. But, notwithstanding, all difficulties resulting from the affections of the arterial organs, and the general constitutional contamination which attends this disease, the success obtained by our author, by the operation, viz. one in three, is sufficient to justify a resort to it.

With the following extract, showing the influence of hereditary predisposition, in giving rise to scirrho-cancer, we shall close our notice of this section of the work.

"The following instances of hereditary cancer have occurred within my knowledge, to a family in this vicinity. The grandfather died of a cancer of the lip; whether others of his generation were affected, I know not. The son had a cancer of the breast, and, at the age of sixty, was operated on by my late father, but died of cancer some years after. Two of his sisters had cancer of the breast, were operated on, and ultimately died of the disease. A daughter of one of the ladies had a cancer of the breast, which I removed at an early period; she recovered, but died some years after of disease of the uterus. A daughter of the gentleman has a cancer of the breast, but declines any operation. I have reason to believe that other members of the family are affected, and conceal the existence of the disease."—p. 281.

The next subject discussed is tumours of the salivary glands. Two instances are mentioned in which the parotid was extirpated, probably only in part, as in the instance operated on by our author a salivary fistula remained after the wound healed. The other was a case in which the parotid was extirpated by the late Professor Warren, in 1804. In both cases the face was paralysed for a length of time after the operation. In the instance in which the author operated, while pursuing the deep dissection, the pulsations of the carotid were quite visible, and an assistant was requested to compress the common carotid, while the operator attempted to continue the dissection.

"In an instant the assistants, the operator, and the ceiling of the room, were covered with a torrent of blood. The common carotid was at once compressed effectually. The blood being spunged off, I sought for the divided artery; but soon found it had retreated below and within the digastric and stylo-hyoid muscles. These muscles were dissected, the artery brought into view and tied, the operation continued and concluded."—pp. 289, 290.

The author gives two cases in which he removed a tumour of the

submaxillary gland. In one of these an incision was made parallel with the lower jaw, two inches in length; the gland was exposed, the facial artery brought into view below the gland, and secured before dividing it. The operation was almost bloodless, and the patient recovered rapidly. He mentions another instance in which he saw this operation performed some years ago, by a bold surgeon, but bad anatomist. The facial and sublingual arteries were cut, but the dissection was continued in the midst of a torrent of blood, without stopping to tie the vessels; sponges were now thrown on in abundance; attempts were made to secure the vessels; but before this could be accomplished the patient lost so much blood that he expired within twenty-four hours—a glaring instance of the sacrifice of human life at the hands of ignorance and unpardonable temerity.

On page 298 we find an interesting case detailed, in which the tumour involved the parotid, submaxillary, and the lower part of the sublingual glands.

"The diseased parts were surrounded in an elliptical incision, extending from the lobe of the ear to the upper part of the neck, and including the submaxillary, the sublingual, and the parotid glands—all of them in a morbid and disorganized state, and they were *all entirely removed.*"—p. 300.

It should be remarked, that on first attempting to extirpate this tumour, it was proposed to tie the common carotid previously to proceeding with the dissection. In cutting down upon this vessel a small vein was divided, and air rushed in, producing such alarming symptoms as to make it necessary to suspend the operation, which was performed a week afterwards, without tying the carotid. As, however, this case has already been published in the *American Cyclopædia of Practical Medicine and Surgery*, (vol. i. p. 263,) we shall refrain from giving the details.

When it becomes necessary to remove a scirrhous thyroid gland, the author thinks that the carotid on one side should be tied; and if both lobes be diseased, as it would not be safe to tie both carotids, this might be done by two operations, in a case where injury justified a measure so hazardous. He gives a case in which the left lobe was removed; the carotid being tied on account of the difficulty of reaching the superior thyroid artery, owing to its great depth. The inferior thyroid did not bleed.

As a measure of prudence, the advice here given may be followed, but we do not consider it necessary. The writer of this, about two years ago, assisted Professor Smith, of Baltimore, in the removal of a very large tumour of the thyroid, implicating both its lobes. The carotids were not tied, yet the loss of blood was inconsiderable, except from the transverse jugular vein, which was divided. It is a little remarkable that in this case also the thyroid arteries, except the upper one on the right side, did not bleed. They seemed to have become completely obliterated.

We shall pass over several subjects treated of by the author, viz: tumours of the testicles and of the mucous glands; cancer of the lip and tongue; tumours of the palate and pharynx; tumours of the tonsils, of the stomach and intestines, of the rectum, vagina, uterus, bladder, &c., to the part of the work which treats of erectile tumours.

Under this head the author includes tumours of the arteries and tumours of the veins. Tumours of the arteries, he says, may be divided into congenital and accidental. The accidental include aneurism, and aneurism by anastomosis. Of the former he does not treat.

The following case is not without interest.

A very fat comely girl, aged eighteen, was admitted into the M. G. Hospital, affected with an erectile tumour as large as a hazel-nut, which occupied the internal angle of the right eye, just above the lachrymal sac. It had an active pulsation, which extended into the surrounding arteries. The pulsation of the facial was very strong; and by compressing it, the vibrations of the tumour were much lessened. Compression of the temporal artery produced no change. The skin over the tumour was slightly reddened; there was a sensible increase of heat; the pulsation of the carotid was increased, and pressure on this vessel suspended the pulsation of the tumour. The stethoscope, applied to the carotid and facial arteries, gave the saw-mill sound.

"A small incision was made between the tumour and the cavity of the orbit. The pulsation of the anastomosing branch of the ophthalmia was discovered, and a ligature passed round this branch. Next, an incision was made across the facial artery, below the tumour, and after allowing it to bleed about eighteen ounces, a compress was applied to include the artery and sac. On the division of the facial the pulsation ceased, and the patient was relieved from her bad feelings."—p. 401.

On removing the dressings, however, slight pulsation was perceived in the tumour. Still it was hoped that a cure might follow, as the wound healed kindly; and the patient feeling comfortable, she was discharged at her own request. These hopes were disappointed. In a short time she returned to the Hospital; a slight pulsation being still discernible in the tumour, and the internal angle of the other eye had a pulsation somewhat stronger than that in the right. The carotids on both sides, especially on the right, throbbed violently, so that she sometimes felt as if "the top of her head was flying off." The upper part of the face and forehead were red and swollen; and, on the whole, there was a great aggravation of the disease. Under these circumstances, the author observes: "There seemed but one course remaining: that of tying both carotids, or, rather, of tying one; and if this did not answer, the other."

"On the 2nd of January, 1830, I tied the right carotid. The pulsations on the right side were immediately relieved. Those of the left continued for some time, then slowly subsided; and on the 3d of March she was discharged, perfectly cured."—p. 403.

The sympathy of the arterial system of one side of the head, with that of the other, forms an interesting feature in this case.

"The vibratory action of the vessels of the right side, produced corresponding vibrations in those of the left. Hence arose some embarrassment in the treatment of the case; since it seemed probable that the cure of the original affection would leave behind it a disease equal in amount to itself; and it never could be determined whether this would be the fact, but by actual experiment. In the period of disease which succeeded the operations on the facial, opthalmic, and temporal arteries, the phenomena were in truth more conspicuous on the left than on the side originally deranged. So very striking were they, that I was entirely at a loss whether the ligature of the right or left carotid would be most likely to be useful. The perfect success, from tying the right carotid, showed that the affection of the left side was altogether sympathetic; yet certainly it is remarkable that

two great arteries like the carotids, should seem to be so much under the influence of the nerves, as to take on this sympathetic action; unless we deny the doctrine that the pulsations of the great arteries are dependent principally on the action of the heart, and allow that they act from their own power."—pp. 403–4.

Under the head of congential tumours of the veins, the following case deserves to be noted.

"This was a boy ten years old, who came to the M. G. Hospital in December, 1833. He had a tumour on the back part of the head, covering most of the os occipitis, especially on the right side. It was an irregular, knotted, flaccid tumour, composed of very hard cords; so hard that it seemed impossible they could be veins; yet there shot out from this tumour, purple-coloured vessels to the right side of the head, as far as the forehead, and also over the summit of the head. In the centre of the swelling was quite a solid knot, like a filbert.—The father's story was, that he first saw a small tumour on the back of the head, when the boy was two years old, and that it had gradually increased since. The father was a German emigrant, and had been absent from the child most of the time since he had been in this country, which was about nine years. The boy was subject to the head-ache, and had been frequently ill, and had a sickly complexion.—A question being made as to the expediency of the removal of the tumour, or rather of that part of the tumour on the os occipitis, I had some doubts as to the effect of the operation, from its being impracticable to remove the ramifying veins from the upper part of the scalp. If, however, these veins were supplied from those in the tumour, or if, on the other hand, they returned their blood through the tumour, the interruption caused by the removal of the latter, might result in a successful termination.—An operation being therefore decided on, I made a crucial incision on the surface of the tumour, dissected up the scalp, and exposed this large knot of vessels buried in a mass of connecting substance. Then, seeking for the base of the tumour, I could find no place distinctly marked as such, because the venous net-work extended itself gradually and insensibly into the surrounding substance. I therefore carried the knife round the body of the tumour, cut through numerous large, hard veins, which poured out a torrent of blood, and removed the mass down to the pericranium. The bleeding veins had no disposition to contract, and were tied. In tracing some of them, as far as they could be distinguished, they seemed to penetrate the cavity of the cranium—an appearance which gave me some uneasiness lest I should not be able to secure them, and lest the contents of the cranium might be disturbed by the inflammatory process consequent on the operation. By ligature and compression the bleeding was stopped. The wound was brought together and the skin united. Part of the wound did not heal at once. Two weeks after, the boy had a slight attack of erysipelatous inflammation. He recovered wholly, and was discharged in about six weeks from the operation. The veins on the scalp gradually diminished, and when he went off, seemed in a fair way to shrink up. The boy's health was perfectly good."—pp. 430–2.

In the treatment of varicose saphena veins, Professor Warren does not think the operation usually practised, of excising a portion of the vein, necessary. When it becomes necessary to resort to an operation, it is sufficient to divide the vessel, and the hardened cellular texture about it, so as to allow it to retract. "In this case, a small compress, being well placed and bandaged on the part, the whole leg and thigh being also bandaged, there is no danger of reunion of the vein. Nor," continues the author, "have I ever saw any bad consequences, in the many cases in which I have operated by the division of the vein." When the operation is not successful, he thinks it may be owing to want of proper confinement afterwards, or to the enlargement of both saphena veins below the knee. In the latter case, he divides both vessels, or the common trunk formed by their union above the knee, an operation which he says he has sometimes practised.

In speaking of varicose saphena, Professor Warren does not allude

to the needle and twisted suture, proposed by Davat, in these affections;* and we are a little surprised that he should have made the same omission in treating of varicose tumours of the spermatic cord—the more especially as this procedure has excited considerable discussion in the French metropolis, within the last two years. It consists in passing a fine needle through the skin, so as to transfix the vein from before backwards—afterwards turning the point upwards, and bringing it out by transfixing the vessel and skin higher up, and from behind forwards. A common ligature is then wound round the needle, as in the twisted suture, in order to keep the opposite surfaces of the vein in contact with each other.

The methods mentioned by the author for the treatment of the disease are, compression, ligature of the spermatic artery, ligature of the spermatic veins, and excision of these veins.

Compression, as proposed by Breschet, is effected by screwing a small forceps, with flattened padded blades, upon the vein, where the instrument is suffered to remain until inflammation and obliteration are established.† Professor Warren has not been able to get his patients to submit to this procedure. Ligature of the spermatic artery sometimes fails. One patient, who had been operated on in this way, came to the author afterwards, having experienced no benefit. The veins were excised, and he recovered perfectly in two days, and has remained well ever since. In one case, he applied a ligature to the spermatic veins with success; but thinks the operation by excision of these veins the best. He informs us that he has practised it for many years, and that in no instance has it been necessary to repeat it. The following is the method of performing the operation.

"The patient is placed on a table, the external parts being previously shaved. An assistant holds the vas deferens firmly and carefully between his thumb and forefinger. An incision is made over the swelled veins, two inches long. They burst through the aperture of the skin, are seized by the operator, and divided, first at the upper angle of the wound, then at the lower. In the first division, it is necessary to avoid pulling down the veins, because the bleeding orifices, being drawn upwards into the sheath of the cord, are more difficult to discover. If they continue to bleed after a few minutes, ligatures are applied to as many orifices as require them. After waiting until the bleeding has wholly ceased, a stitch is to be made in the middle of the wound, and the rest closed with adhesive plaister. The wound often heals by the first intention."—p. 441-2.

This operation, Professor Warner informs us, he has never seen attended with any unpleasant consequences, except in a single instance. In this case the whole scrotum became extensively infiltrated with blood, in consequence of neglected hemorrhage, and, with the testicle, sloughed away.

"This occurrence," observes the author, "was a warning to me, and I wish it may be to others, to have the case carefully watched after the operation is done. You have perhaps heard of the fate of Professor Delpech, of Montpelier, who was assassinated by a man who had lost the testicle from excision of the spermatic veins. Such an occurrence would almost prevent our doing an operation in which there is danger of consequences insupportable to the pride of the patient. The proper course would be, to let the patient know that the testicle is probably useless before the operation, and that after it the organ may wither and even

* See the preceding No. of this Journal, p. 460. † See this Journal, Vol. XVII., p. 234.

shrink away. I mean to say that it may wither up; not that it will necessarily do so."—p. 445.

There are several other topics in the work which we should be pleased to notice, did our limits admit. But as we have already occupied considerable space by the extent of our extracts, we cannot do more than enumerate some of the leading titles of those articles which we shall have to leave unnoticed. They are, tumours of the nerves; hemorrhoidal tumours; polypous tumours; tumours of the antrum; fungoid tumours of the uterus; hydrocele; tumours of the synovial membranes; tumours of the fibrous membranes; tumours of the eye; encysted tumours; and tumours of the abdomen.

Under many of these heads the author has given cases of considerable interest; but for the details of them, and of many other matters which we have been obliged to pass over, we must refer to the work itself, which we doubt not will be widely circulated.

We alluded at the outset of our remarks to the expectations raised in our own mind, and probably in that of others, by the appearance of the work which forms the subject of this article; and as we have endeavoured to give a fair and candid exposition of its contents,—purposely refraining from remark or comment as much as possible, allowing the author in most cases to speak for himself,—the reader will, we hope, be able to form his own opinion as to how far the work is calculated to satisfy those expectations. For ourselves, we must confess that, having long known the author as one of the most distinguished and successful of American surgeons, we had indulged the hope that,—with such a guarantee for the successful accomplishment of any thing he might attempt,—we should have found in the present work a rich and lucid exposition of pathological views, calculated to shed new light upon the nature and treatment of tumours. The author, it is true, has given a detail of an immense number of important cases and operations; but in omitting to analyze them, he has merely put us in possession of an additional supply of raw material, already abundant, to be employed by future generations. In making this remark, we would not be understood to say that he has not rendered an important service. Our remark applies to the manner more than the matter. We would have been better pleased had the author given us more of analysis and philosophical generalization, and less of merely operative detail; more effort to instruct us in relation to the origin, developement, and tendency of tumours, than display of the incisions and manipulations by which they are to be removed; more of the lights of pathology and of general treatment, and less about the knife.

The fault to which we allude, we consider the besetting sin of medical inquiry at the present time. In their zeal for observation, the votaries of medical science seem to have lost sight of induction—so indispensable to give utility to their labours. Indeed, in this respect, their conduct is, perhaps, as reprehensible as that of their predecessors, who were purely speculatists; for, to use the language of a recent writer, "while the followers of one party, confine themselves to the collection of facts, which they know not how to co-ordinate by philosophical conceptions, those of the other, too frequently lose them-

selves in vain hypotheses, and seldom produce more than mere empty dreams."* We would not, from these remarks, be understood to depreciate the value of isolated observations. We are too well satisfied of the benefits they are capable of conferring on medical science. We only object to the present rage, we think too prevalent, of publishing bare details of cases, without any disposition to generalize from them, and with a total omission of any attempt to submit them to a process of induction, and thus to draw from them the valuable principles they might serve to establish.

But to return from this digression, we feel it incumbent on us to say, that the remarks in which we have indulged, are not designed to apply to Professor Warren, more than to most of his cotemporaries. He has only followed the example of many who have gone before him; and in doing so, has produced a work, abounding with useful facts, which, notwithstanding the defects to which we have alluded, and faults of style, resulting from the retention of the lecture-room phraseology, we cheerfully recommend to the members of the profession, as containing a rich record of personal observation and experience. The lithographic illustrations add to the value of the work, and in point of typography and paper, it is superior to any specimen we have seen emanating from the American medical press.

E. G.

ART. X. *Recherches Pratiques sur la Thérapeutique de la Syphilis, ouvrage fondé sur des observations recueillies dans le service et sous les yeux de* M. CULLERIER, *Chirurgien en chef de l'Hôpital des Vénériens.* Par LUCAS-CHAMPIONNIERE, Docteur en Medicine. Paris, 1836. pp. 415, 8vo.

Practical Researches relative to the treatment of Syphilis; a work founded upon observations collected in the service and under the eye of M. CULLERIER, *Chief Surgeon of the Hôpital des Vénériens.* By LUCAS-CHAMPIONNIERE, M. D.

From the great reputation enjoyed by M. Cullerier, a book under the authority of his name is calculated to attract much attention. Dr. Lucas-Championnière subjoins, by way of introduction, a letter from this celebrated surgeon, in which he not only acknowledges the work as a faithful expression of his opinions, but adds many very interesting observations connected with the topics upon which it treats. Though not formally attached to the physiological school of medicine, M. Cullerier has the liberality to admit that the happy modifications which the treatment of syphilitic diseases have experienced within the last fifteen years, are entirely owing to the efforts of its disciples.

* W. J. A. Werber. Entwicklungs geschiehte der Physiologie und Medizin. Leipzig, 1835.

These, however, he charges with carrying their positions too far; adding, by way of apology, that, like their master, they wished to strike hard, so as to make themselves the better felt. He alludes particularly to their denial of the existence of a specific venereal virus, and their refusal to allow any useful effects to mercury in the treatment of syphilitic affections.

But notwithstanding his belief in the identity of a venereal virus, M. Cullerier is far from yielding that implicit faith to the specific powers of mercury over it, which such a belief usually begets. There is, he thinks, no more reason to admit the existence of a specific for syphilis, than for small-pox or scarlatina.

"Mercury," he remarks, "to which, for so long a period, the virtues of a specific have been ascribed, is far from possessing any such marvellous property; a fact demonstrated by daily experience. No, assuredly, we cannot cure all syphilitic affections by means of mercury. A specific would be very desirable at all times; for physicians who are so situated as to be obliged to prescribe for a great number of syphilitic patients, know very well the difficulties connected with its treatment. But if mercury is deprived of its title of specific, we must still recognise it as endowed with great power." * * * "The treatment of syphilis will never be rational; it will never be sure and satisfactory; until we have abandoned the idea of acting upon the cause of the disease. The pretensions of those who think that mercury attacks the principle of the malady are entirely unfounded, since no one has ever seen such principle. The consideration of symptoms furnishes the true basis of the treatment of syphilis. It forms the basis of my own practice; and it is that which you have so perfectly conceived and set forth."

Such is the profession of faith of M. Cullerier, whose field for observation in hospital and private practice has afforded him more extensive opportunities of making himself acquainted with diseases of this class, as manifested among all sexes and conditions in life, than was perhaps ever before presented to any individual. He gives us strong reason to believe that he has pursued his inquiries into the nature and treatment of syphilitic affections, not only with zeal, but with a desire for truth and a freedom from prejudice. When it is recollected that for twenty years M. Cullerier unremittingly persevered in the practice of exhibiting mercurials indiscriminately, according to the doctrines of the old school, we must certainly give him great credit for having thus far disengaged himself from prejudices which had been so long cherished.

One of the most interesting points connected with the investigation of primary syphilitic affections, is involved in the question, whether a symptom originating from contact with an unhealthy person is precisely of the same nature as that from which it was derived? M. Lucas-Championnière thinks that a gonorrhœa derived from sexual intercourse, always proceeds from contact with gonorrhœal matter; whilst a syphilitic ulcer originates only from a sore of the same character. It is well known among practitioners that ulcerations are often contracted by intercourse with females, where no such lesions could be found upon the labiæ. In such cases our author thinks that the ulcers which gave rise to the infection may always be formed at the neck of the uterus, as has been verified in numerous instances by examinations with the speculum.

"It is," says he, "externally, or at the entrance of the vulva, that ulcers are

generally developed in the female, whilst they are rarely met with in the course of the vagina. But since the speculum has been applied to the investigation of venereal affections, it has been ascertained that in many women the neck of the uterus presents ulcerations and inflamed spots, very similar to those characterizing the venereal chancre."

The pathological discoveries here set forth, may be all very true, and are certainly interesting; but still we are inclined to think that the form in which a venereal affection manifests itself is less controlled by the nature of the acrimonious matter from which it originates, than by circumstances connected with the organization or constitution of the patient. Sensible of the mischievous practical results which must almost necessarily attend a belief in the specific nature of the forms of syphilis, our author endeavours to counteract them by the following observations.

"Syphilis is generally considered as a peculiar affection, only to be advantageously combatted by recourse to some substances endowed with specific virtues; which, abandoned to itself, must always increase, unless the progress of the virus be stayed by some destructive agent; an affection differing in every respect from all other diseases, most of which, as is well known, may disappear from the efforts of nature alone. This is the prevailing opinion; and, governed by this principle, most physicians still hasten to cover ulcers during their most acute stages with mercurial ointment, make frictions of the same upon tumours in the highest state of inflammation, and, in fine, treat the symptoms of syphilis in a manner totally different from those of all other known maladies."

We are pleased to find our author modestly acknowledging the obscurity which still invests the subject of the diagnostics of genuine syphilitic chancre, and admitting that a sore of circular form, excavated appearance, thickened edge and base, and bottom covered with adhesive matter, as described by Hunter, or any other specific signs given by authors as evidences of true venereal chancre, are far from being pathognomonic characteristics, inasmuch as the most slight and superficial primitive ulcerations, may terminate in very serious and inveterate consecutive affections. The same difficulty he conceives exists in regard to the true nature of a variety of other primary affections, such as vegetations, ulcerations, tubercles, and pustules seated about the anus, and neighbouring parts. As to those symptoms denominated consecutive, they are often still more difficult to recognise. Ulcerations in the mouth, for example, proceeding from syphilis, mercury, or other causes, may be readily confounded. Cutaneous eruptions have no better distinctive characters, the coppery tinge by which they are surrounded, and which authors have set down as their diagnostic, being any thing else than constant. Affections of the bones may also lead to error, since they are absolutely similar to those produced by other causes.

The decision made by Astruc, and still maintained by many physicians, that the symptoms which are promptly cured are not to be considered of a syphilitic character, he thinks completely refuted by the facts, that in general they are rendered more or less inveterate and formidable by the circumstances and habits of the patients, and also that consecutive symptoms are frequently met with in persons who at first experienced but the slightest affections, which were quickly

healed. Those physicians who at the present day think that all the symptoms which yield to the internal and external administration of mercurials, are of a truly syphilitic character, and therefore look upon mercury as the touch-stone by which syphilitic affections are to be recognised, appear to forget that by such a rule, all other affections which get well by the use of mercury, may be set down as of genuine syphilitic origin.

"It is certain," observes our author, "that mercury, properly administered, is a powerful remedy against the symptoms of syphilis. But like all other remedies, it should be used with discretion: and in order to derive its good effects, we ought to discriminate those cases to which its administration is best adapted. Experience teaches us in the most positive manner, that mercurials, far from hastening the cicatrization of certain syphilitic ulcers, on the contrary retard them, whilst other remedies more appropriate to the condition of the sore, or to the constitution of the patient, show themselves prompt and efficacious. The experience of M. Cullerier leaves not a doubt on this point. How then can we pretend to distinguish by the employment of mercury alone, those lesions which belong to a syphilitic infection, from such as originate from some other cause?"

Now when all the diagnostics of syphilis that have been enumerated, fail, in what manner is the genuine disease to be identified?

"Strictly speaking," says our author, "there is but one circumstance upon which we may rest our conviction; which is, the supervention after a longer or shorter time of a general infection. Syphilis is, in fact, only truly characterized when it has passed through certain stages, and become constitutional, attacking successively tissues of various natures, such as the skin, the mucous membranes, and the fibrous and bony structures. This re-appearance, after a longer or shorter time, of a disease, the symptoms of which had been completely effaced, is assuredly the phenomenon which ought to attract most attention from practitioners. At the present day, when the ameliorations adopted in the treatment, render the primary symptoms in general so much less severe, it is to their recurrence that all their inquiries should be directed."

With our author we consider all the marks which have, from time to time, been pronounced infallible indications of genuine syphilis, as extremely fallacious. The test which he applies is particularly unfortunate, as it places both the physician and patient in the awkward predicament of not knowing the nature of a primary affection, which the one is suffering and the other treating, until the lapse of weeks, months, and years have shown whether or not constitutional symptoms will ensue. We think it best under such circumstances to cut the knot which so many have vainly endeavoured to untie, and, throwing aside all nice distinctions, to regard every sore upon the genitals ensuing to sexual intercourse, as capable of degenerating into the most inveterate ulcers, followed by the ordinary train of consecutive affections. A similar conclusion has, we are aware, led the mercurialists to accomplish very great mischief by the indiscriminate employment of their supposed specific. But now that a better light is thrown upon the subject, we regard it as affording, when unperverted, the surest basis for medical practice. In what this practice should consist will be subsequently shown.

The second chapter is devoted to a consideration of the general treatment of syphilis.

It is only within the last ten years that the practitioners in the large

venereal hospital of Paris, have yielded sufficient credence to the evidence of those who believed and proved that syphilitic affections might be cured without mercury. M. Cullerier's practice in the Hôpital des Vénériens, where five or six thousand were annually admitted, formerly consisted in exhibiting mercurials to all indiscriminately. Millions of pills were kept prepared, each containing an eighth of a grain of oxymuriate of mercury, two or three grains of flour, and sometimes an eighth of a grain of opium; a box containing twenty-eight of these was given to each patient weekly. The pills after having been kept on hand for a few weeks, acquired the hardness of stone, so that they generally traversed the whole tract of the alimentary canal, without suffering the least decomposition, the patients often declaring that they recognised the entire pills in their stools. This was conspicuously shown in cases where the ignorant patients, under the idea of hastening their cure, sometimes swallowed, with impunity, the contents of a box at one dose, whilst at others they went into the opposite extreme of incredulity, and estimated the curative effects of the pills so lightly, as to give or sell them to their comrades. When these and other facts became generally known and properly considered, they led to the inference that the mercurial routine was little if any better than a treatment without mercury. Nevertheless, the enormous number of patients which underwent the irregular treatment described, all, sooner or later, recovered; and, subsequently, exhibited secondary symptoms no more frequently than those who had been subjected to a more regular mercurial treatment.

These observations led M. Cullerier to make further inquiries, both in hospital and private practice, the result of which was, that of an immense number of patients who had taken no mercury, or who had used it in the very unsatisfactory manner described, the instances of relapse were found to be infinitely small, when compared to those occurring after the employment of active mercurials. No wonder then that he should have been led by such results of his own observations, and the concurrent testimony of others, to decline the administration of mercury any longer as indispensable to the treatment of syphilis. For the last ten years, our author informs us, mercury has been used in the practice, from whence the facts just stated were derived, only as an auxiliary in the treatment of local symptoms. It is well known that in many hospitals in France, the same practice is adopted. Now, to that mass of individuals who neglect their primary symptoms, it is necessary to add a considerable number of subjects who ought to be exposed to relapses, from having undergone a non-mercurial treatment. If the opinions, which prevailed so long, were not erroneous, the hospitals should exhibit multitudes of those who suffered the penalties due to an infraction of the precepts laid down by authors. We are, however, informed that in the wards of the *Hôpital des Vénériens*, as well as every other place where the same practice has been adopted, consecutive symptoms of a grave character, are infinitely more rare than formerly. Twenty years ago, for instance, returns of the

disease were very common, and nothing was seen but exostosis, necrosis, destruction of the soft palate, tubercles on the skin, &c.; one ward was reserved for such unfortunate subjects, who, horribly disfigured, or mutilated, presented a combined spectacle which, happily, is seen no more.

"At present," observes our author, "when one of these formidable cases occurs, those who wish to observe it must make haste, since they only show themselves at long intervals, and it is almost without example that a patient, who submits willingly to the means prescribed, leaves the hospital without being entirely cured of his secondary symptoms. It is proper to add, that the consecutive symptoms met with are infinitely less formidable than formerly encountered, which were very often beyond the resources of art."

The truth of all these observations, our author confirms by reference to the authentic statistics of the hospitals, which show the results of the mercurial and non-mercurial methods of treatment to be as represented.

The frequency and gravity of the symptoms following the mercurial treatment, naturally gives rise to the question, whether these are to be regarded as syphilitic, or purely mercurial? In discussing this point our author observes,

"That some affections, such as pains in the bones, exostosis, and certain neuralgias, are seldom to be met with, except among those who have used mercury. M. Cullerier has records of only two or three cases forming exceptions to this rule, and these are regarded as somewhat deficient in authenticity. But if, on the one hand, such cases develope themselves in persons who have taken mercury, it must be observed that these same persons resorted to the use of this metal for the purpose of getting rid of syphilitic symptoms. It is well known that mercury is administered freely in a multitude of diseases besides syphilis, and also that certain persons are exposed to the noxious effects of mercurial fumes, both of which causes produce a class of disorders differing altogether from those properly designated consecutive syphilitic symptoms."

We agree with our author that these last are not wholly due to the mercury, the improper administration of which tends to subvert the efforts of the system to resume its healthy actions, and to awaken a train of morbid symptoms in the tissues which would otherwise have remained sound.

The two following propositions, furnish the results of our author's observations, sanctioned, of course, by those of M. Cullerier.

"1. The symptoms of syphilis commonly yield readily to the employment of other means than the mercurial preparations."

"2. Diseases thus treated are not more subject to return than those in which mercury has been exhibited; a mercurial course, even when best conducted, not preventing relapses of the most serious character. In admitting the efficacy of mercury for the removal of certain symptoms, and regarding it as a precious medicine, we should, however, reject all which has been said up to the present day in relation to its specific qualities, and its reputed action in annihilating the syphilitic virus."

One of the most serious disadvantages resulting from a blind faith in mercury as endowed with special powers over syphilitic affections, arises from the inordinate use often made of it by persons goaded on by extreme anxiety to rid themselves of a disease the effects of which, either fancied or real, inspire them with such terror. Were mercury a much milder agent than it is, the strong inducements thus presented

to use it inordinately, would be fraught with danger to the economy. The confidence so commonly attached to mercury as an antidote to syphilis, often renders it extremely difficult to persuade patients to dispense with it in cases where its employment would be useless or positively detrimental. It is evident that this evil must attend upon the use of any other active agent which may be endowed by professional or popular credulity with specific powers to control the disease.

We fully concur with our author in believing that mercury administered for the cure of the primary symptoms of syphilis, tends to protract their removal.

"A multitude of symptoms," he observes, "yield to proper treatment in one or two weeks; whereas, if the patients were submitted from the first to the effects of the supposed preservative, though affected with the slightest symptoms, they would remain under treatment at least forty days."

It is hardly necessary for us to repeat what we have said in regard to the effects of salivation, the consequences of which we consider far more pernicious than the worst forms of syphilis. Even the moderate doses generally administered, we believe with our author to be often injurious.

"Mercury, given in very small doses as a specific to the syphilitic virus, and with the view of annihilating it by a chemical or some other operation, is," he remarks, "an absurd practice, which can only be adopted by those whose opinion of syphilis is founded upon the vague, confused and ancient notion of the specific qualities of this metal, and of the dangerous consequences that have been lately shown to attend its administration."

In justice to our author, we think it proper here to state, that whilst he thus severely deprecates the ancient practice in syphilis, he is by no means a subscriber to the doctrine of total abstinence from mercury, to which agent he objects only when administered for all syphilitic symptoms, according to the routine method.

"The preparations of mercury," says he, "are substances too precious in the treatment of this disease, and have had their efficacy tested by too many facts, to allow us to deprive ourselves of agents so truly useful. But after having studied the application of mercury without prejudice, and compared the results, we remain convinced that it is only adapted to the treatment of certain cases."

We now proceed to notice the particular measures recommended for the treatment of syphilitic affections by Dr. Lucas-Championnière, who professes to found his practice only on the basis of observation and experience, and upon the supposition that the nature of the syphilitic virus is unknown, whilst the precise channel by which it gains admittance, together with the operation by which it is subsequently eliminated from the system, are matters equally obscure.

The therapeutic agents by which the symptoms are removed are very numerous, and multiply daily as the materia medica becomes more perfect. As in other diseases, they are divided into general and local.

"We may," says our author, "give a theoretical exposition of the general measures by which we make a favourable impression upon the system; but the local applications are so numerous, that their enumeration would be tedious, if not impossible, since they vary according to the condition and progress of the symptoms, as these are regulated by times, places, and subjects; in fact by a multiplicity of circumstances which can only be pointed out by reference to particular cases."

Commencing with the general modifiers of the antiphlogistic class, the first mentioned by our author, is rest in bed or in a horizontal position, which, as a means of avoiding the principal causes of stimulation, is useful in the treatment of all syphilitic symptoms, and indispensable in most of them. The absence of all motion is, our author thinks, imperiously demanded whenever there exists affections of the mucous membranes, bones, and in general any severe symptoms. The rest thus imposed, is not only advantageous by preventing all excitement in the parts affected, and in opposing the stasis of blood towards the pelvis, but tends to place the patients in that state of debility which favours the resolution of every kind of inflammatory engorgement. It unfortunately happens, that the necessity of secrecy and various other circumstances, oppose so many obstacles to this measure, as to render its adoption seldom possible in private practice, in which scarcely one patient in twenty can be persuaded to submit to confinement until the symptoms become so formidable as to render locomotion impossible. It is, therefore, only in hospitals, or maisons de santé, that strict repose can be secured.

The second therapeutic agent laid down by our author, relates to regimen, or the adoption of means to diminish the process of nutrition, obliging the patients to live, as it were, upon themselves, by only allowing them the lightest nourishment. A diet more or less strict, is, he observes, exacted in general practice, in the treatment of the slightest affections, and it is difficult to explain the reason why practitioners have ever come to believe that they could dispense with such a precaution in the treatment of syphilis, and allow patients, who may be carrying large inflammatory tumours tending to suppuration, and the invasion of the neighbouring tissues, the same nourishment they are accustomed to take in ordinary health. The amount of food should be reduced for some days according to the degree of intensity manifested by the symptoms, and the duration of the infection.

"Great importance," says our author, "should be attached to regimen as a therapeutic agent for the cure of syphilis. It is from this means alone that M. Cullerier has often obtained cures, when all others have failed. But in all cases, the efforts of the practitioner should be directed to place the patients in the most favourable conditions for the administration of remedies, and regimen assists marvellously towards the attainment of this result. It is evident that the severity of the regimen ought to vary according to the peculiar habits or constitutions of individuals. One patient will be promptly reduced by abstinence, so as in a few days to be placed in the most favourable circumstances, when others will require the addition to regimen of repeated blood-lettings, baths, &c."

Whilst however he thus insists upon the importance of a proper course of regimen, he admits that a too rigid and long abstinence is fraught with serious disadvantage to the system.

The third general antiphlogistic agent, namely, blood-letting, is not, our author thinks, like the two first, indispensable to all cases, but only necessary as an auxiliary where the inflammation runs high, or the general condition of the patient is plethoric, etc. Among other general means of depletion, purgatives are mentioned with but faint praise; M. Cullerier making little use of them in his practice, except

in some cases occurring in subjects of a lymphatic temperament, and relaxed habit of body. Baths are recommended as powerful antiphlogistics, necessary at the first onset of syphilitic symptoms. The operation of these general agents of reduction, is favoured by the use of mucilaginous drinks sweetened, whey, chicken water, barley water, &c. Mild demulcents are in fact the only drinks which ought to be prescribed during the period of irritation, and even throughout the whole duration of a recent infection.

Such are the means which form the basis of the antisyphilitic treatment as now conducted by M. Cullerier, and which are alike indispensable, whether the affections be primitive or consecutive. Our own experience enables us to testify with the utmost confidence to the assertion of Dr. Lucas-Championnière, that these general means alone are often sufficient to effect cures.

"We cannot," says he, "too much insist upon this point, which serves as the foundation of all rational treatment of syphilis. When we have removed the patients from every species of stimulation, and subjected them to repose in bed—strict regimen, sanguine emissions, baths, etc., that inflammatory disposition which we almost always observe at the commencement of the disease is sensibly moderated; many of the symptoms disappear of themselves in a very short time, many yield readily to the influence of a local treatment, and a small number only, require a particular medication."

We now come to notice another and very different kind of general modifier, appertaining to the class of medicines called stimulants, at the head of which we find the mercurial preparations. From what has been already said, it is plain, that our author is far from being a routineist as regards mercury, whilst he has not, like many, gone into the opposite extreme of entire abstinence, from its employment under peculiar circumstances. His particular views upon the subject may be gathered from the following passage.

"When we find it necessary to subject the general system to an active course of medication, for the purpose of producing a change favourable to the removal of the symptoms, we may select from among a very great number of substances, those best adapted either to the constitution of the patient, or the form under which the disease manifests itself. The examination of these different medicines will lead us at first to take a review of their various preparations, and finally to decide upon those which are to be preferred.

"Of all the medicines to be examined, none exert a more decided operation in effecting the removal of the syphilitic symptoms, than those which, under different forms, have mercury for their base. This is a truth which must be acknowledged; and if in this work we have so often opposed their administration, it is because a belief in their indispensable necessity in every syphilitic affection, subjects the patient to an active treatment, which we believe not always required, and often extremely injurious to health, whilst on the other hand it leads to neglect in the employment of those soothing and efficacious measures, which restore health without exposing the system to lesions more or less severe."

The mercurial preparations generally employed in the practice of the Hôpital des Vénériens, are the black oxyde, sulphuret, chloride, cyanuret, and ioduret. In primary affections, frictions of the mercurial ointment in portions of a quarter, half, or whole drachm, are made locally, especially in cases of bubo; also in cases of chancres on the penis, which resist the ordinary general depletory and

local treatment; in cases of obstinate chronic gonorrhœa, and in certain indurations of the prepuce and skin succeeding ulcers or tubercles of those parts. It is also prescribed in portions of a half or whole drachm, with a view to its general effects, in some intractable cases of primary syphilis, or where the internal use of other mercurial preparations seem to be demanded, whilst the patient is not in a situation favourable to the internal administration of mercury.

These frictions are made by the patients, at intervals varying from one to three days, according to circumstances, sometimes immediately on the parts affected, sometimes to the groins, the internal parts of the thighs or legs, below the knees, or to the soles of the feet. Frictions are rarely applied to the arms, for fear of producing salivation, and also, because M. Cullerier always prefers operating as nearly as possible to the seat of the symptoms. By making the frictions at distant intervals, and observing the proper hygienic precautions, our author thinks the accidental effects of mercury, especially salivation, which is the most frequent one, may be avoided. As opponents, however, of the inconvenient, filthy, and, as we think, unnecessary use of mercurial frictions, we invite particular attention to the following quotations from our author.

"Although hospital patients are on many accounts better situated than those in private practice, it nevertheless sometimes happens among the former, that mercury acts with great rapidity upon the gums and mucous membrane of the mouth. There are patients who cannot bear the slightest friction with the mercurial ointment, without immediate salivation. For this reason we ought to watch with the utmost care, the effects of mercurial frictions. At the commencement of the year 1835, we saw a young girl affected with two mucous pustules, and two ulcers on the labia, who, after the use of three frictions of a quarter of a drachm each, made at intervals of three days, experienced a salivation attended with great pain and severity, and which was arrested with great difficulty.

"At other times," continues he, "frictions excite upon the delicate skin, erysipelatous and other eruptions, which not only invade all the parts upon which they are applied, but also other regions of the body. If mercurial frictions, even when made in the greatest moderation, did not occasionally affect the mucous tissue of the mouth, this method of treatment would assuredly be preferable to all others in cases requiring the employment of mercurials. But this circumstance ought to prevent them from being frequently used; for, notwithstanding some physicians pretend that such an effect is of little importance, we regard it as an unfortunate complication, and one which is very much dreaded by patients. Add to these objections, that patients treated at their own homes, from the necessity they are under of concealing their ailments, seldom find themselves so situated as to admit of its employment."

Mercurial ointment prepared by trituration, is likewise exhibited internally in the practice of the Hôpital des Vénériens, but our author informs us that the oxides are seldom resorted to. Externally the sulphurets, and especially cinnabar, are used with the most marked success, particularly in diseases of the skin.

In using the sulphurets, the patient is enclosed in a box up to his neck, and in this situation exposed to the fumes produced by throwing a drachm or two of one of the substances upon a heated plate placed at his feet.

"These fumigations," our author tells us, "are not only useful in diseases of

the skin, but in chronic ulcers wherever situated, exostosis and pains of the bones. By means of a small apparatus specially adapted to the purpose, the fumes from a few grains of cinnabar are also directed to the lower part of the throat, nasal cavities, &c. sometimes producing a prompt amelioration of affections in those situations. The mercurial fumigations are usually prescribed every day, or every other day, with intermediate baths of a simple or gelatinous kind. They however, often produce salivation, and the patients complain of them on account of the excessive heat by which they are necessarily accompanied. Occasionally they produce extreme irritation of the skin, however weak they may be made.

Notwithstanding all these, to us, weighty objections, especially their sialagogue tendency, our author attaches great value to their employment, as calculated to produce remarkable cures. It is rare, he informs us, that the exanthematous syphilitic affections, whether of a papular or pustular character, resist their operation, and he deems it a subject of regret, that the difficulty which attends their administration, and the necessity of having an apparatus specially adapted to the purpose, do not admit of their convenient employment in private practice.

The chlorides of mercury, so generally administered by practitioners, who put their faith in the internal use of this metal, are seldom resorted to in the practice of M. Cullerier. When he does prescribe either, he prefers the proto-chloride or calomel, which he gives in very minute doses, for fear of producing salivation, or an irritation of the alimentary canal, both of which are frequent occurrences. Two grains of calomel, united with a grain of opium or extract of cicuta, are administered, in divided doses, in the course of the day; a prescription which is particularly adapted to the treatment of chronic inflammation of the testicle.

The deuto-chloride of mercury or corrosive sublimate, is hardly ever resorted to by M. Cullerier, in consequence of its tendency, even in very feeble doses, to irritate the stomach and produce spasms and other inconvenient effects. When, however, it is administered, the quantity given is about one-eighth of a grain, united with a quarter of a grain of opium, repeated night and morning. M. Cullerier prefers the cyanuret of mercury to the corrosive sublimate, and administers it in similar doses. The preparations of mercury most employed by M. Cullerier, in the treatment of secondary symptoms, is the proto-ioduret, which he prescribes in pills, made according to the following formula:—Proto-ioduret of mercury, gr. xij.; extract of opium, gr. vj.; guaiacum, ʒj.; to be made into twenty-four pills, one of which is to be given morning and evening.

The proto-ioduret and cyanuret, are regarded as much less irritating to the stomach than the other mercurials. The first named preparation appears to be absorbed very readily, so as frequently to induce salivation, on which account its effects require to be closely watched.

It is chiefly in cases of chronic syphilis that the proto-ioduret is successfully administered in the practice of the Hôpital des Vénériens, and its effects are most obviously displayed when there exist consecutive ulcerations of the mucous membrane, cutaneous tubercles, exos-

tosis, articular engorgements, or other formidable affections in which the other mercurials have been prescribed in vain.

It thus appears that for the purpose of favouring the removal of certain obstinate primary symptoms, the physicians in charge of the hospital last named rely chiefly on the use of the mercurial ointment in frictions, and sometimes administered internally, together with the cyanuret of mercury; whilst fumigations with cinnabar, and the internal use of the proto-ioduret, are ordinarily reserved for the relief of the consecutive symptoms. M. Cullerier generally unites opium with every mercurial preparation which he administers internally, regarding it not only as an anti-irritant, but as a powerful adjuvant of mercury in effecting a removal of the symptoms.

Previous to entering upon the subject of the employment of mercurials in the treatment of syphilitic affections, it might have been proper to discuss the point, what are the circumstances which should lead to their use? In our author's opinion, recourse should never be had to them in primary affections, until the inefficacy of less exciting remedies has been ascertained.

"Since our object is not to decompose the syphilitic virus, but only to remove the consequences to which it may give rise, it is evident," says he, "that we should strive to attain this end by a mild course of treatment as often as possible, without exposing the patient to dangers which always attend the administration of an active agent."

In the hospital practice of M. Cullerier, it would appear that mercury is administered, with a view to its general effects, only in about one-tenth of the cases affected with the primary symptoms. Among his private patients, the proportion of those subjected to the use of mercury is greater, as these are seldom capable of submitting to the restrictions, and adopting the other measures which tend to heal the primary sores most speedily and prevent their degeneration.

Recourse to the administration of mercurials in the treatment of the consecutive symptoms, is recommended by our author much more frequently than in the primary affections. But he is nevertheless far from believing that a constitutional affection cannot be made to disappear, except under the influence of mercury or some other active medicinal agent. He tells us, on the contrary, that the most formidable symptoms yield with the greatest facility to the withdrawal of every cause of stimulation, and the use of apparently trivial local applications. Among other cases which he adduces in proof of this last assertion, is one which he had seen in the Bicêtre, of a patient affected with tubercles, which had succeeded a very large ulcer in the back of the throat, where it had destroyed a portion of the posterior nares. These yielded and cicatrized in the course of about two months, without any other attention on the part of the patient than submission to rest and a moderate diet, the inhalation of emollient vapours, and applications of opium cerate. This case, he says, took place two years ago, since which time there has been no relapse.

Two other questions connected with this subject relate to the length of time mercurials, when required, are to be administered, and the

proportions to be used? In answer to the first, we quote from our author the following observation.

"The object to be attained in the treatment of syphilis, is the removal of the symptoms. When the parts diseased have regained their natural condition, all further protraction of the treatment would be, to say the least, useless. The employment of mercurials should therefore be suspended, whenever there are no longer traces of infection."

In reply to the second question, it may be remarked, that syphilitic symptoms disappear in different individuals at such indefinite periods, that it is difficult to fix by anticipation the amount of mercury that may be required. In recent cases it appears that M. Cullerier seldom employs more than ten or twelve grains of the sublimate or cyanuret, or half a drachm of mercurial ointment in divided doses, and externally a few mercurial frictions. When, after such recourse, the symptoms do not entirely disappear, or experience a greater or less amelioration, he thinks that the mercurial treatment should be suspended, the patients allowed some time to rest, and then subjected to the operation of some other medical agent. He recommends in all cases that the treatment should be suspended from time to time, and then resumed.

The following observations of our author convey a highly useful lesson to those who, possessed with the absurd notion of the specific operation of mercury upon the venereal virus, obstinately persist in its employment, to the detriment, if not destruction, of their patients.

"It is well known," says he, "with what facility the mucous membrane of the mouth inflames under the influence of the mercurial treatment, presenting at such times, in various points, and frequently at the bottom of the throat, ulcerations commonly superficial, and very difficult to distinguish from those produced by syphilis. Very many physicians persevere in vain in the administration of mercurials, in the hope of causing the cicatrization of these ulcers; but the effect is to injure the digestive organs, without at all benefitting the condition of the mouth. We could cite more than twenty examples of patients who, after having undergone several courses of treatment, entered the Hôpital des Vénériens, despairing of the condition of their throat as incurable, and who have left the establishment in a short time *perfectly cured, by the sole effect of laying aside all kinds of treatment.*"

To read the graphic descriptions, and attend to the nice criterions laid down by writers who have attempted to distinguish accurately between what are regarded as genuine syphilitic affections, and such as are ascribed solely to the effects of mercury, it might be thought one of the simplest things possible, to identify either by the slightest inspection. The case is, however, far otherwise in actual practice, when the experienced eye and most admirable tact are often baffled in attempting to discover whether the affection arises from the regular course of syphilis, or from the noxious agency of the medicine. We do not wish to be understood as advocating what is commonly termed, a mercurial disease, as we have never believed in the existence of any such malady. All that we would be understood as implying by the phrase mercurial affection, is that aggravation of the symptoms belonging to the train of syphilis which is often observed to follow the use of mercurials.

Since the discovery of iodine, it has been introduced very exten-

sively into the treatment of syphilitic affections. It was at first looked upon as endowed with specific powers over all kinds of tumours, and therefore especially applicable to the removal of buboes. But its reign as a specific has been short, and now it is employed locally and generally as an advantageous modifier, adapted not only to the discussion of buboes but to promote the removal of most other chronic syphilitic symptoms. M. Cullerier makes very frequent use of iodine in his practice, employing it externally as a topical dressing in the forms of ointment, solution and tincture. In combination with mercury, he exhibits it externally more frequently than other medicine. Alone, or united with potass, in the form of ioduret of potass, it is regarded by most of the French practitioners as possessed of decided anti-syphilitic properties.

It is a common practice with M. Cullerier, to combine one grain of iodine with two or three grains of hydriodate of potass, which portion is taken through the day in divided doses. He gradually increases the quantity taken daily, till it amounts to about two grains of iodine, and from six to ten grains of the hydriodate of potass. He also gives the tincture of iodine occasionally in doses varying from fifteen to forty or sixty drops, made into a potion taken in divided doses three or four times a day. The iodine given in these modes, generally agrees well enough with the stomach; but there are, nevertheless, many persons, as our author tells us, (and our own experience confirms his observation) whose digestive organs suffer such inconvenience from the use of iodine, and in whom it produces such pains in the head and other febrile symptoms, as to make it necessary to suspend its employment.

The iodine potion just referred to, is prescribed in cases of chronic engorgements of the testicles, and cervical and inguinal glands, in tubercles of the cellular tissue, cutaneous diseases, and affections of the bones.

"Iodine," says our author, "is a powerful anti-syphilitic, but it should never be administered in the treatmeht of the primary symptoms, unless in combination with mercury."

We object decidedly to this qualification, believing that it tends to convey erroneous impressions, with regard to the properties of both medicines, the general and local stimulating effects of which so far resemble each other, as to render them both improper in most cases of primary disease.

Iodine possesses one advantage over mercury, that of being in general less injurious to the digestive organs. On this account its administration may be continued much longer.

Brome, the medical effects of which are said to be very similar to those of iodine, is beginning to be used with much the same intentions. Its mode of administration is also similar.

Notwithstanding the high praises which have been bestowed by some of the profession, upon the preparations of gold and platina, M. Cullerier seldom employs them in his practice. Our author, however, thinks that they are sometimes capable of producing good effects in some inveterate cases where mercury and iodine have failed. The

chloride of gold, is a very active medicine, and its administration requires to be watched with the greatest attention, to prevent those injurious effects upon the digestive and circulatory organs, which it is capable of producing.

Among the general modifiers taken from the class of stimulants, our author introduces the several articles which are generally supposed to operate beneficially in syphilitic affections, through a special agency exercised upon the skin, on which account they are termed sudorifics. The articles of this kind in most common use are sarsaparilla, china root, guaiacum, sassafrass, antimony, and the carbonate of ammonia.

Sarsaparilla is generally prescribed in every case of constitutional syphilis, whilst the guaiacum is reserved more specially for affections of the bones and fibrous tissues. M. Cullerier frequently prescribes the carbonate of ammonia in those cases of pains in the joints, bones, and other parts of the system, which so frequently occur after the injudicious employments of mercurials. In certain eruptive diseases of the skin, he sometimes uses the mezereum, and dulcamara; but the article of this class which he employs most of all others, is antimony, as it exists in the tisan de Feltz. Whether the medicinal properties of this celebrated tisan, reside chiefly in the antimony which constitutes its supposed base, or in the small proportion of arsenic which cannot be entirely separated from the crude antimony, are points which our author does not attempt to determine; but he asserts, that the tisan always produces the most admirable effects upon patients who have been long under the influence of mercury: he refers particularly to its curative agency, after all other prescriptions have failed, in tuberculous affections of the face and nose, and ulcerations of the palatine arches accompanied with necrosis.

M. Cullerier, never resorts to this class of medicines in recent syphilitic affections, believing that the various articles it includes are all more or less stimulant in their operation, on which account they can never act advantageously, except in the chronic forms of syphilis. To us this is one of the most important distinctions which can be drawn in relation to the treatment of syphilitic affections, and applies equally well to mercury, iodine, and all other medicines usually called in requisition.

With respect to opiates, which we think exercise the most happy effects in almost every form of syphilis, we observe that M. Cullerier seldom prescribes them alone, but generally in combination with sudorifics, mercurials, and preparations of iodine.

A word or two may be usefully said in relation to the proper times for administering the various remedies just referred to. Most persons recommend the doses to be taken when the stomach is in its most empty state, which our author thinks may give rise to gastric inflammation, easily avoided by choosing another period. He tells us that M. Cullerier never administers his medicines until some time after a meal, when, deposited in the mass of food, the dose is moved about by the peculiar workings of the stomach and bowels, in such a way,

as to come in contact with every part of the mucous membrane, and be absorbed more readily than when confined to the small space which it must necessarily occupy if taken several hours after the completion of digestion.

In concluding our notice of the general modifiers most commonly employed in the practice of the principal venereal hospital in Paris, we cannot avoid making a few quotations from the text of our author, which we think contain highly valuable observations.

"Syphilis," says he, "presents in its march many caprices, if we may be allowed the expression, which depend, as we have already stated, not upon the disease itself, but upon the peculiarities of patients. Thus, sometimes it resists the use of mercurials, iodine, &c., and yields to sudorifics. At other times, mercurials seem to succeed very well at first, but soon all amelioration ceases, and the disease remains stationary, or gets worse; so that it is necessary to change the medicine and have recourse either to some other form of it, or choose one of a different base. Sometimes it becomes absolutely necessary to suspend every mode of treatment, and to abandon the patient to his own resources. Whatever medicine we may use, it is indispensable that it should be suspended from time to time, to allow the organs to rest. This is a precept laid down by authors, the utility of which the experience of every day tends to confirm.

"We have sought," continues he, "to particularize the cases in which one medicine ought to be preferred to another; but, independently of the well known action of each substance upon the different symptoms, there are other circumstances which ought to influence us in the choice of a remedy. Mercury, for example, being considered the most efficacious, is almost always prescribed with a preference which leads to its abuse in inveterate cases. Its forms and doses are varied, other substances are combined with it, until at length, the symptoms are so aggravated that they cannot be removed except with the greatest difficulty. Now, it is precisely under such circumstances, unfortunately of but too common occurrence, that a change in the treatment is generally followed by the most prompt alleviation. It is now that the employment of sudorifics, opiates, or the tisan de Feltz, produce such good effects. To persevere in prescribing a medicine, the use of which is not followed by sensible amelioration at the end of a certain time, is not the part of a sensible practitioner, or a good observer."

We will next proceed to notice the topical means which M. Cullerier thinks best adapted to promote the removal of the symptoms of syphilis. If the rational general treatment of syphilis requires as a fundamental consideration, that all idea of a specific venereal virus should be laid aside, it is no less indispensable that the topical measures should be applied without regard to the existence of any such foreign agent in the system. We entirely agree with our author, in his remark that the rational and methodical application of certain local modifiers which possess no specific qualities, is the surest plan, not only of rapidly dissipating the symptoms, but also of preventing the frightful complications which so often contribute to render the disease we treat of, so serious, notwithstanding all that is asserted to the contrary.

The primary symptoms of syphilis will, under favourable circumstances, frequently disappear very quickly under the observance of cleanliness, and a use of the most simple applications, whilst at other times they show themselves long rebellious to local means even when aided by the most highly approved general measures.

We regard ulceration as invariably the first sign by which primary syphilis manifests itself; for we do not believe in what some of the

French physicians call *bubon d'emblée*, or bubo developed without the existence of any previous sign of infection. In all cases where tumours in the groin result from impure sexual connexion, and where the patients think they have had no other venereal symptom, a strict examination of the penis will, we think, show either ulceration, the signs of its previous existence, or inflammation of the mucous membrane of the urethra. All who have had extensive opportunities of observing venereal affections in their primary stages, must know how frequently it occurs, that patients deny at first having any thing but the bubo which they exhibit, the sores which a nice inspection reveals, being entirely unknown to them.

Less rigid than Hunter, who believed in but one truly syphilitic chancre, and more strict than Carmichael, who contends for five primitive forms, M. Cullerier admits two varieties of the true venereal ulcer. One of these he calls the follicular chancre, as it results from the inflammation and suppuration of a follicle. Its first appearance is in the form of a small ovular excavation, as if a piece had been removed with an instrument. The inflammation extends either gradually or simultaneously to other follicles, and these erosions uniting at their borders, at length form an ulcer of greater or less extent. Sometimes, however, each follicle inflames and suppurates separately, so as to present a patch of chancres. This kind of ulcer is regarded as by far the most common.

The second variety of primitive venereal ulcer admitted by M. Cullerier, is what he denominates the chancre by erosion. It resembles precisely the ulcer occasioned by prolonged or violent friction on a surface badly protected by its epidermis, or produced by superficial inflammation of a mucous membrane running on to ulceration. These ulcers develope themselves upon every part of the glans penis, and especially upon the neck of the uterus. They are regarded by M. Cullerier as manifesting in the highest degree the contagious property.

Both these varieties of chancre may, according to M. Cullerier, either cicatrize in a few days, or assume in the end the characteristics of the Hunterian chancre. That which originates upon the summit of the prepuce, on the skin of the penis, or elsewhere, may, at a later date, take on the characteristics of Carmichael's chancre, with indurated base and elevated edges.

We are disposed to concur entirely in the following views of our author, in regard to the diagnostics of venereal ulcers.

"A good deal has been said of late about chancres of a virulent, as differing from those of a non-virulent character. We have demonstrated the impossibility of establishing any such distinction. Every ulcer seated upon the genitals and following coition, ought to be regarded as of a syphilitic character and treated accordingly, that is to say, opposed by the local and general modifiers until its complete disappearance, and the restoration of the part on which it was situated to its normal condition."

The primary syphilitic ulcer may be healed by two methods, the reverse of each other, that is to say, an antiphlogistic course and topical applications of a soothing kind; or, an opposite plan in which

the inflammation is destroyed at once by recourse to perturbating means; such, for example, as cauterization.

In regard to this last practice, our author makes the following judicious remarks:

"Cauterization at the commencement of a chancre, and before it has acquired the summum of its developement, is a very common practice in the army, as well as among the common people, and with some physicians. But the plan, although expeditious, is accompanied with so much danger that it ought to be reserved solely for a few rare cases, in which the particular aspect of the ulcer, temperament of the patient, and above all, the peculiar circumstances in which he is placed, permit its adoption. It is very certain that a strong cauterization may remove in a few days an ulcer, which, left to itself, or treated rationally, might have required several weeks for its cicatrization. But so many immediate or secondary inconveniences may result from this practice, as to forbid its adoption as a general rule."

If the progress of the inflammation be not arrested at once by the cauterization, it is rendered infinitely more severe, causing a greater destruction of the tissues and a general aggravation of the symptoms. It also tends to the production of buboes with all their unpleasant train of consequences. Our author thinks that the most serious evil arising from the cauterization of a chancre at its début, is the more frequent occurrence of consecutive symptoms to which it gives rise, sooner or later, after an apparent cure. It is proper to remark, that this opinion, so contrary to the views of those who resort to the practice for the purpose of burning out the virus and guarding against secondary symptoms, was also maintained by Dupuytren.

As to the applications of a less irritating nature than lunar caustic, such as stimulating lotions, mercurials, and the like, they are seldom resorted to by M. Cullerier in the commencement of syphilitic ulcers, since they are subject to all the inconveniences of caustics without possessing as much efficacy.

The treatment adopted in the Hôpital des Vénériens, for the removal of primary venereal ulcers, consists in the employment of the general measures for reducing the system which have been already referred to, together with the frequent application of leeches to the groins, perineum, and even to the ulcers themselves, but never to the inflamed skin. The topical modifiers resorted to, consist simply in local bathings, emollient and narcotic injections, cataplasms, and applications of opium cerate. After two or three days of such treatment, actively pursued, our author informs us that the violent inflammation, swelling of the prepuce, &c., by which many of the cases are attended, subside, and that if the employment of emollients and opiates be solely persisted in, no new accidents need be apprehended. When, along with ulcers, there is pain, inflammation, tumefaction, or infiltration of the skin covering the penis, the application of leeches to the perineum or groins, is assisted by emollient local baths, covering the penis with compresses steeped in a narcotic and emollient solution, with anodyne potions at night.

How strongly does this rational treatment contrast with that formerly pursued by almost all physicians, and still practised by many, of covering the sores, and perhaps the whole penis, with mercurial ointment, rubbing with painful industry the same filthy preparation

into the groins, and cauterizing and fretting with stimulant applications, until the inflammatory symptoms are raised to a pitch where disorganization and gangrene are inevitable.

When the syphilitic ulcer continues to resist the general and local treatment recommended by our author, he advises the application of one or two leeches in its centre, to be renewed as often as necessary.

"No other plan," says he, "tends more powerfully to arrest the consequences so likely to result from an excess of inflammation; and when properly made, that is to say, confined to the centre of the ulcer, these applications are attended with not the smallest degree of danger."

In combating the local symptoms, M. Cullerier sometimes applies pure laudanum, or a strong solution of opium in water, directly upon the ulcer. In cases of less severity, he confines himself to applications of cerate containing opium or belladonna.

M. Cullerier very properly condemns the practice of dividing the prepuce in phimosis, for the purpose of getting at the ulcers beneath, since the two sides of the wound, made by the incision, will be imbued with the syphilitic discharge and transformed into chancres, much more difficult to heal than those which led to the operation. The cure of chancres covered by the prepuce, is commonly readily effected by frequent emollient injections containing calomel and the extract of opium. These not only tend to remove the acrimonious discharges, but to reduce the inflammation. When paraphymosis occurs, the strangulated glands must be first reduced in size by means of gentle pressure, after which the prepuce is to be drawn forward, and the glands at the same time pushed backwards. When this is effected the case is reduced to one of phimosis, and treated accordingly.

After the subsidence of the first acute inflammatory symptoms, if the ulcers remain, the next object is to choose such local stimulants as are best adapted to promote their healing. Those most frequently resorted to under such circumstances, in the practice of the Hôpital des Vénériens, is the mercurial ointment alone, or reduced in strength by admixture with a certain proportion of cerate; pledgets of lint steeped in a solution of mercury, acetate of lead, or sulphate of copper; an ointment of the proto-ioduret of mercury, calomel in powder, &c. Where still stronger applications are required, slight cauterization with nitrate of silver is resorted to, or, what is more frequently used, a solution of corrosive sublimate in the proportion of ten grains to the ounce of distilled water.

Certain ulcerations to which the female organs are subject, require some peculiarities of treatment, not such ulcers as are of ordinary occurrence about the entrance of the vagina, but those which are revealed around the neck of the uterus by the use of the speculum. Every female entering the Hôpital des Vénériens, with any external venereal symptom, is subjected to exploration by means of this instrument. Even where no external signs of disease appear, and yet persons having had connexion with them contracted disease, the speculum is applied, and generally succeeds in developing the existence of disease about the neck of the uterus.

"Sometimes," says our author, "the neck presents only a bloated appearance, being red, swelled, and, as it were, hypertrophied, but not ulcerated; or, at least, if some erosions exist, they are so minute as scarcely to be perceptible to the eye. This tumefaction of the neck of the uterus, nevertheless, appears of a syphilitic character, and capable of developing ulcers on the penis by contact."

The ulcers occurring in this part, our author regards as bearing a strict resemblance to chancres on the penis. In addition to the means adapted to similar affections of the male organs, he recommends at first emollient injections, followed by the introduction to the bottom of the vagina of tents of lint imbued with similar washes. These emollient applications are subsequently succeeded by others of a more active kind, containing Goulard's solution, calomel in powder, and in fact all the local modifiers mentioned as adapted to the treatment of chancre of the penis. The ulcerations about the neck of the uterus, according to our author, show great resistance to the healing process, and are seldom completely cured in less than two or three months; whereas those on the penis seldom require a longer period than from three to five weeks. Query, what obstructions to healing may be opposed by the frequent introduction of the speculum, and the tents of lint?

The next primary syphilitic symptoms which we come to notice, is bubo. Although generally the accompaniment or immediate successor of chancre, bubo is sometimes an attendant upon gonorrhœa. Our author thinks, that in this last case, there is commonly an ulceration in some part of the urethra. We ourselves think that the high state of inflammation to which the delicate mucous tissue lining this canal is subject, is sufficient to rouse the neighbouring glands into diseased action, and that buboes accompanying gonorrhœa are not to be regarded as the common evidences of an existing ulcer.

Our author makes a general division of buboes into three kinds, according to the tissues in which they are developed. Where the effect of the irritation is confined to the inguinal glands, he denominates the tumour *glandular* bubo. Where, as occasionally happens, the swelling is confined to the cellular tissue of the parts adjacent to the penis, he calls it a *phlegmonous* bubo. His third species consists in the engorgement of the lymphatic ganglions and cellular tissues, on which account he calls it *mixt*. The phlegmonous bubo may establish itself at any point on the anterior part of the pelvis endued with cellular tissue, as for example, at the root of the penis, middle of the pubis, in the groins, and in the hypogastric region, far from the genital organs. But those phlegmons which depend upon the direct influence of a syphilitic ulcer, and which thus form separately from the lymphatic ganglions, are, our author informs us, only met with existing very superficially. For when the cellular tissue of the deep parts of the pelvis become engorged and converted into an inflammatory tumour, it is always in consequence of the extension of inflammation from the inguinal lymphatic glands.

It is a popular opinion, which we regret to say is also maintained by some physicians, that buboes should always be encouraged to suppurate, so that the virus may be thus discharged from the system.

We entirely agree with our author, that their resolution should invariably be obtained when possible, as their suppuration is nearly always attended with very inconvenient and often serious consequences. With all those who have adopted a rational plan, and laid aside the old mode of treating recent buboes by the internal administration of powerful irritants, and the external application of forcible frictions with mercury, their suppuration is happily of rare occurrence, and only takes place when some causes exist to counteract the effects of the treatment.

Our author refers to two methods of practice adopted for the treatment of recent inflammatory bubo, the one being of a purely antiphlogistic character, the other revulsive and perturbating. The first embraces local and general sanguineous emissions; narcotic and emollient applications, local bathing, &c., whilst the second includes the use of topical refrigerants, especially the application of ice, blisters, &c., with other means of affecting revulsion. Which ever plan be followed, it is proper to add, that regimen, and rest in bed, are indispensable to the proper treatment of inflammatory bubo. Every means which has a tendency to produce stimulation in a greater or less degree, especially the use of mercurials and other applications, supposed to be endowed with specific effects, should be scrupulously rejected during this stage of the bubo, which ought be viewed as a case of simple inflammation, and without regard to any peculiarity in its origin.

When by means of regimen, rest, and sanguineous evacuations, both general and local, proportioned to the strength of the patient, and severity of the case, the engorgement of the inguinal tumour has been sufficiently accomplished, our author recommends, for the purpose of favouring the resolution still more, the application of flaxseed meal poultices, which he thinks contribute to dissipate the swelling without favouring the production of pus. In warm weather the poultices should be applied cold, to obviate in some measure their rapid tendency to become acid. Along with these topical applications, hip-baths are recommended, in which the patients may remain several hours every day in obstinate cases. Baths also contribute to produce the resolution of bubo, but they are to be regarded rather as general than local modifiers.

Our author informs us, that when patients are willing to submit to the precautions which this mode of treatment requires, and retain the ice constantly upon the inguinal region, it is a powerful means of affecting discussion. He, however, thinks it less applicable to the primary stage of bubo, than to the period when the tumour, passing from its chronic state, requires to be stimulated to reanimate the activity of the absorbent vessels. The treating of buboes on the revulsive plan by applying ice and blisters, is strongly recommended on the score of economy; for it must be confessed, that the mode of reducing inflammation by means which embrace the frequent application of leeches, is attended with very serious expense, not only in hospitals, but in private practice. In regard to the advantages to be

derived from blistering the surface of primary buboes, we are enabled to join our testimony to that of the author.

Sometimes the bubo instead of being discussed, or terminating by suppuration, loses its sensibility, warmth, and other characteristics of inflammation, and remains a hardened lump, being now what is commonly called an indolent or chronic bubo. In this state it requires a treatment altogether different from the inflammatory tumour; and instead of having its supplies of blood lessened, and all exciting agents removed, means must be resorted to for restoring a certain degree of activity to the tissues. But the chronic bubo is not to be regarded as entirely indolent, and under such an impression stimulated unduly, since it is always in a condition which renders it liable to pass suddenly into a subacute state, followed by suppuration with all its inconveniences. It is upon the application of irritants to the skin, that our author chiefly relies in the treatment of indolent bubo; and blisters constitute his main dependence, although there are other means that may be usefully resorted to. Among these we may mention frictions with mercurial ointment, or with an ointment composed of hydriodate of potass and hog's lard, in the proportion of ʒj. of the former to ℥ij. of the latter, &c. &c. The method of restoring action to a chronic engorgement by cauterization over its centre, is, however, regarded by our author as the most effectual.

Of all the forms of bubo, the one under consideration is that which most frequently demands the internal use of the general modifiers, and, although, according to our author, mercury claims the highest rank, the preparations of iodine, brome, gold, tisan de Feltz, &c. may be often substituted.

Such is the repugnance of M. Cullerier to the suppuration of buboes, that even when these present themselves with evidences of pus existing in small quantity, he attacks them by active antiphlogistic means, with the view of either reducing them entirely and effecting the absorption of the pus, or limiting the formation of this so that a very small puncture will suffice for its discharge. Whenever it becomes absolutely necessary to open buboes, he prefers effecting this by a moderate incision, rather than by cauterization. His leading object appears to be to avoid any further solution of continuity than is absolutely necessary to admit the escape of the pus. In accordance with this view, he is generally satisfied with an opening of a few lines in extent, made with the point of a lancet.

Our author has devoted considerable space to the consideration of ulcerated bubo, with the various obstacles which obstruct cicatrization, such as those depending upon the ulcer itself, the condition of its borders, and the state of its bottom, together with the various means commonly resorted to in the practice of the Hôpital des Vénériens, for their removal. In concluding his chapter upon this subject, he demands particular attention to one practical point, a knowledge of which he thinks indispensable to the cure of ulcerated syphilitic bubo: namely, that it is impossible to determine by simple inspection what topical application will soonest restore healthy action

to the ulcer, and produce its cicatrization. One substance must be used first, then another, afterwards a third, and so on, according to the prescribed rules, until an article is at length found suited to the nature of the ulcer. It is the same with medicines applied internally in every kind of syphilitic affection. From all this, it may, we think, be inferred, that the chief improvements which the practice in venereal diseases has undergone of late years, is confined to the primary stages.

With respect to gonorrhœa, M. Cullerier is among those who maintain that its character is altogether different from that of the primary ulcer. The secondary symptoms, by which gonorrhœa is frequently followed, are ascribed to ulceration existing in some portion of the mucous surface where they are usually invisible. The general and local means which he calls in requisition for the treatment of this affection of the mucous membrane are of the same kind as have been recommended for the treatment of the primary syphilitic ulcer. In addition to these, he advises an application of leeches to the perineum, groins, root of the penis, course of the urethra, and, when the inflammation is violent, to the summit of the glans; local baths, emollient and narcotic fomentations, oily embrocations, and emollient cataplasms, are also resorted to. The practice of applying leeches upon any portion of the penis, is, we think, objectionable, on account of the danger arising from the contact of the discharge with leech bites. Our objection applies with peculiar force to placing them upon the glans; and they should, we think, be confined to the perineum and groins.

"These means," our author informs us, "are sometimes sufficient to cure the patient. It however usually happens, that the pain abates, the free course of the urine is restored, the discharge becomes whitish and thicker, but still the disease would be protracted indefinitely, unless recourse was had to a different treatment, the efficacy of which has been demonstrated by experience."

The treatment to which he alludes, consists in the exhibition of terebinthinates, astringents, and cubebs. With regard to injections, our author reprobates their use, whether consisting of simple warm water, or solutions of astringent or other matters, in the most unqualified terms, as highly detrimental in every stage of the disease.

"The only means," says he, "of hastening the cure of urethritis at its début, is to persevere with energy in the use of sanguineous emissions. One or two bleedings from the arm, and three or four applications of leeches to the perineum, may subdue the inflammation in a few days. We have seen numerous examples of the efficacy of this practice, which is assuredly the best plan to pursue when patients are very urgent in their desire to get rid of the disease in a few days."

We cannot assent to the sweeping denunciation made by M. Cullerier against injections of all kinds in every stage of the disease. We maintain, on the contrary, that injections of warm water, warm milk and water, flaxseed tea, mucilage of the pith of sassafras, and weak solutions of opium in water, often tend greatly to relieve the primary symptoms of urethritis. But they should seldom, if ever, be relied upon as sufficient of themselves to reduce the local inflammation, which is to be mainly conquered by general and local antiphlogistic means. Much injury is often done to the very delicate

mucous coat at the extremity of the urethra by the rough manner in which the injection is administered. Too great delicacy cannot well be observed in the operation. In the chronic forms of gonorrhœa and in gleet, injections judiciously made, often produce the most happy modification in the condition of the mucous membrane, and never, in our practice, have we known them followed by any of the bad effects usually ascribed to them. But then we take care to use them very weak, and always proportioned to the irritability of the surface with which they are brought in contact. The mischief we have observed to follow the use of injections in the practice of others has always arisen from the improper employment of irritating solutions applied too soon, or when prescribed in the chronic forms, made of too great strength. We were not a little surprised to find M. Cullerier countenancing in any manner the vicious practice sometimes resorted to of inoculating with recent gonorrhœal matter for the cure of obstinate chronic discharges from the urethra, since inflammation of the mucous membrane sufficiently acute to supersede the chronic action, could be so readily roused by other means less objectionable.

M. Cullerier regards orchitis as arising, not from a metastasis of the inflammation of the urethra, but by its regular extension in a train along the vasa differentia to the epididymus and even the testicle itself. In support of this conclusion, he observes, that the discharge from the urethra is seldom entirely suppressed, although it is always diminished in quantity. This view of the pathology of orchitis has certainly one good practical effect, namely, to show the mischievous folly of those who introduce bougies for the purpose of irritating the urethra and thus bringing back the inflammation.

The particular treatment of orchitis does not differ essentially from that recommended for other affections of an acute inflammatory character.

Before concluding his book, our author notices several of the sequelæ of syphilis, such as pustular affections, vegetations, condylometa, cutaneous disorders, ulcerations of the mucous tissues, syphilitic enlargement of the testicle, affections of the osseous and fibrous tissues, syphilis occurring with infants and their nurses, &c. But we have dwelt already too long on the main topics of his work to allow of any particular notice of these subjects. Our great object has been to make our readers acquainted with the practice in syphilitic affections pursued at present in one of the most extensive hospitals in Europe, under the superintendence of a surgeon whose name has been invested with almost oracular authority. May his leading views tend to modify the practice of those who have not before emancipated themselves from the doctrines and treatment formerly maintained and followed with such evil consequences. G. E.

BIBLIOGRAPHICAL NOTICES.

ART. XII. *Maladies de l'Utérus, d'après les Leçons Cliniques de* M. LISFRANC, *faites à l'Hôpital de la Pitié.* Par H. PAULY, Paris: 1836. 8vo. pp. 536.
On Diseases of the Uterus, from the Clinical Lectures of M. LISFRANC. By H. PAULY.

Professor Lisfranc, the surgeon in chief to the Hôpital la Pitié at Paris, is well known as having devoted himself in an especial manner to the study of diseases of the uterus. His wards contain at all times a large number of interesting cases of these affections, and for some years past he has regularly delivered a course of instructive clinical lectures upon them. With the exception of a chapter "on the value of the operation of amputation of the neck of the uterus," the work before us is nothing more than an exposé of the well known principles emitted by the Professor in these lectures. It is divided into four parts. In the first is given the surgical anatomy of the organs of generation in the female, and the proper mode of exploring them. The second is devoted to the consideration of diseases of the uterus in general; their causes, symptoms, prognosis, progress and treatment. The third contains the history of healthy and diseased menstruation, fluor albus and hysteria; and in the fourth, sub-inflammation without engorgement, hysteralgia, engorgements of the uterus, ulcerations and amputation of the neck, complete extirpation of it, and polypi, are successively noticed.

It is not our intention at this time to present to our readers an analysis of the views and treatment of M. Lisfranc in all of these different affections of the female. Our examination will be confined to the important chapter on amputation of the neck of the uterus, and to the value of the statements made by M. Lisfranc concerning it. This operation, though recommended by Lauvariol as early as 1780, was first performed by Osiander in 1801. He operated on twenty-eight cases, but, for some time previous to his death, is said to have entirely abandoned the practice. Soon after the publication of his first operations, M. Dupuytren introduced it into France, and performed it fifteen or twenty times; but notwithstanding that he had shown himself its partisan, and had gained much of his early celebrity from it, he likewise discontinued the practice, which was soon after generally abandoned. In 1826 M. Lisfranc revived it, and by the reputation that he had already acquired from his researches on the surgical anatomy of the female generative organs, as well as by his skill and celebrity in the treatment of their diseases, he succeeded in bringing it into much more general notice in France, and in making it more extensively known abroad than it had ever previously been. From the period of its revival up to the present time, he has continued to advocate the operation in his lectures, and on various occasions at the sittings of the Academy of Medicine, has shown himself its warm supporter and defender. All the results, too, which have been announced in relation to the great benefits derived by the patient from its performance, as well as the trifling mortality attending it, have been drawn from cases occurring in his practice, and made known with his approbation. A summary of these he himself presented to the Academy of Sciences of Paris, in 1834, on the occasion of his becoming a candidate for the vacancy caused by the death of Dupuytren, thereby publicly showing that he became responsible for the truth of them.

According to M. Lisfranc, excision of the neck of the uterus may be performed whenever cancer is well characterized, whatever be its stage, provided the disease affects the neck of the organ only. This can be ascertained by the use of the speculum; by being able to pass the finger above and around the diseased portion; by examination per anum; and, lastly, by the degree of mobility of the organ.

The existence of enlargement of the body of the uterus to a moderate degree, he does not consider as alone sufficient proof of its being affected similarly to the neck in cases of cancer. Dissections have shown him the neck of the organ entirely destroyed by ulceration, without the body of it participating in the disease, other than by being simply engorged in consequence of the long continued irritation. The same state invariably accompanies polypus of the uterus and deep seated inflammations of the pelvis, and diminishes, and finally disappears, after the cure of these affections.

Neither does M. Lisfranc consider engorgement of the ovaries as an obstacle to the performance of the operation, provided the constitution of the patient remains good, and the enlargement be not to a great extent. He says: "In one case, in which the right ovary was four times larger than natural, I amputated the neck, and at the end of six years the tumour continued stationary, under an appropriate treatment."

Ulcers of the neck of the uterus, though not cancerous, he thinks, call for its amputation, if of long standing and rebellious to other modes of treatment, as experience daily shows that simple ulcerations of that part are sometimes incurable by any applications that can be made to them, and may even take on a cancerous appearance and prove fatal, if not arrested in their course.

One of the strongest a priori objections made to the performance of the operation, arises from a belief that when the os tincæ is affected by cancer, the body of the uterus must necessarily be similarly diseased. This objection is specious, but, according to our author, is contrary to pathological observation, which shows the neck to be generally the part first and most affected in cancer uteri. For a very long time, too, the disease is limited solely to it; and this explains, says M. Lisfranc, why the success obtained is so much greater after operations for cancer of the uterus, than after the removal of similar disease from other parts. Bayle long since noticed the fact that cancer of the womb produces engorgement of the tissues near to it much less frequently than in any other part of the body; and we may add that our own examinations in a limited number of cases, go to confirm the correctness of the observation. Before deciding upon the operation, M. Lisfranc directs that we should be assured that there exists no chronic inflammation of the peritoneum, or gastro-intestinal mucous membrane, or affection of the chest, to contra-indicate it. This we should think very important, though it does not appear that he himself is invariably deterred from operating by the existence of any of these affections, since it is subsequently stated that he lost two patients forty-eight hours after the amputation, in cases where chronic peritonitis previously existed, and took on an acute form after it.

Nervous palpitations of the heart are frequently attendant upon diseases of the uterus, and cease after the operation. The following is an interesting example of this.

"Eight years since, at the Hôpital St. Come, a patient was affected with ulceration of the neck of the uterus, and at the same time suffered from very violent palpitations of the heart. MM. Landré-Beauveais and Laënnec saw her at my request, and pronounced her to be labouring under aneurism of the left ventricle. Nevertheless, as her life was immediately menaced by the rapid progress of the cancer, she decided upon having the operation performed. Four days after it all affection of the heart had disappeared. She afterwards became a mother, and enjoys at this time (1834) good health."

The mode of operating adopted by M. Lisfranc, is based on two material points of surgical anatomy. 1st. The breadth of the insertion of the vagina upon the neck of the uterus; and 2nd. The mobility enjoyed by the uterus, which permits its extremity to be drawn down to the vulva without danger. The breadth of the insertion of the vagina on the neck of the uterus varies from six to fifteen lines;* and the distance between the extremity of the neck and peritoneum, is nine lines on its anterior, and ten on its posterior surface. These measures are said to have been fixed after examination of more than a hundred healthy subjects for this special purpose; and, if correct, prove that excision of three-quarters of an inch of the neck may be made without fear of opening the cavity of the peritoneum.

In operating M. Lisfranc draws the uterus by means of strong hooks or the forceps of Museux gradually to the external orifice. Once brought down, it is held in that situation by an assistant, while the surgeon passes the fore-finger of his left hand behind its neck, as well for the purpose of holding the part firmly, as to measure the point at which the section is to be made. Every thing being thus prepared, the diseased part is separated by means of a curved blunt pointed bistouri; this division is difficult on account of the great resistance offered by the dense tissue of the uterus, and should be made slowly and by small strokes of the instrument, in order to prevent injury to the peritoneum, the exact situation of which, in regard to the part affected, must at all times be remembered.

The shock given to the nervous system by the operation is sometimes great; and the nervous and hysterical symptoms, such as a sense of suffocation, spasms of the extremities, spasmodic vomiting, &c., which follow it, alarm the attendants, and might indeed, at times, the operator, had he not previously witnessed or been led to expect them; these, however, are said not to be really dangerous, and are to be treated by warm external applications together with diffusible antispasmodics and opiates, administered by the mouth or rectum.

M. Lisfranc asserts that he has amputated the neck of the uterus in ninety-nine cases; of this number fifteen† have died, and eighty-four have been successful. Of the deaths, four were from metro-peritonitis. He has never lost one from hemorrhage, and has been obliged to use the tampon but six times in the ninety-nine cases. Ten of the patients operated on became afterwards pregnant, and of these only one aborted; and she committed imprudences which, in other cases, would have been sufficient to have caused it.

Such are the results of amputation of the neck of the uterus, as proclaimed by M. Lisfranc. They show the operation not very difficult of performance, unattended by much pain, and offering a cheering prospect to both surgeon and patient. The age and high standing of the Professor were deemed a sufficient guarantee for the entire correctness of any statements made by him; and his results in this operation have long since been made known through the medium of the different periodicals. Doubts, however, arose in the minds of those around him in regard to their truth; and in 1833, whilst these were most rife, the author of the work before us became his assistant and first prosector at La Pitié. On first entering upon his duties, M. Pauly undertook to collect and publish the clinical lectures delivered at the hospital on diseases of the uterus, and for this purpose assisted at all his operations and attended to their after treatment.

"Every amputation of the neck of the uterus," says M. P., "offered to me a victim, and results so different from those that I had heard announced by M. Lisfranc, threw me into a painful uncertainty; and notwithstanding his entreaties I delayed the publication of my book."

* The measures are French.

† In this number are comprised the cases in which there was a return of the disease.

In 1835, M. Pauly was charged to make out a list of the cases successfully amputated to present to the institute, and the researches made for this purpose resulted in his relinquishing all idea of publishing and becoming responsible for the statements of M. Lisfranc; though, at the same time, he deemed it his duty to dissipate the cloud that enveloped this point of surgery, by proclaiming the truths with which his intimate connexions with M. Lisfranc had made him acquainted.

The following are the conclusions arrived at by him in regard to the operation. They are drawn from an inspection of M. Lisfranc's own records; examination of the different theses and cases published by his early pupils; accurate inquiries concerning persons said to have been cured by it; and the author's own personal knowledge of all the cases, both hospital and private, operated on during his three years of interneship. As will be seen, they are sadly at variance with those announced by the Professor, and up to this time no sort of explanation or contradiction of them has been given.

1*st*. The statements made by M. Lisfranc to the Academy of Sciences of his having up to the 2nd of June, 1834, operated upon ninety-nine cases is untrue; the whole number of cases, successful and unsuccessful, up to the 1st January, 1836, being only fifty-three.

2*nd*. No positive conclusions can be arrived at in regard to the degree of success had in the hospital, inspection of the records having been denied to him.

3*d*. Of the nineteen cases operated on in private practice, *one* only has derived any benefit from the operation.

4*th*. Of these nineteen cases, four have died within twenty-four hours, twelve from an immediate return of the disease, and in the two other cases the disease having been only partially removed, has gone on to a fatal termination, with increased rapidity.

5*th*. Of the nine cases in which he saw the operation performed, and upon which he remained in attendance during the first twenty-four hours, six have had formidable hemorrhagies; and of these six, three have died within the twenty-four hours.

It is impossible, we think, to be too cautious in receiving the statements of one who uses knowledge obtained under the mask of friendship, to the injury of a preceptor and former friend. At best it is a gross breach of confidence, and we hold the author, who is guilty of it, in slight estimation; though, as public journalists, we have felt ourselves bound to promulgate the fact of the assertions of M. Lisfranc being thus openly called in question, and to state that sufficient proof has been given to show that the number of cases reported by him, has been exaggerated; the dangers of the operation misstated; and its fatal results made out as vastly less frequent than in reality they are.

G. W. N.

ART. XIII. *Recherches sur quelques uns des accidents cérébraux produits par les préparations saturnines.* Par A. GRISOLLE, Docteure en Médecine, chef de clinique de la Faculté de Médecine à l'Hôtel-Dieu; titulaire de la Société Médical d'observation; membre honoraire de la Société Anatomique; correspondant de l'Académie de Médecine de Marseille, &c.—Extrait de Journal Hebdomadaire des Progrès, &c. Decembre, 1836. Paris, 1836.

Researches upon some of the Cerebral disorders produced by the preparations of Lead. By A. GRISOLLE, Doctor in Medicine. Paris, 1836.

In a former number (November, 1836) of this journal, we noticed the thesis of Mr. Grisolle upon lead colic, which has gained for him great and deserved reputation. The present essay is devoted to the consideration of the effects

produced by the introduction of various preparations of lead into the economy, when their action is directed towards the central nervous system. These effects consist of various disorders of the voluntary movements, of the general sensibility, of the intellectual and sensorial functions, &c. As the nature of the affection of the brain which results from the action of lead is entirely unknown, our author has not ventured to designate it by any particular name, but has employed the general phrase "cerebral disorders from lead," (accidents cérébraux saturnins.) These symptoms occurred in ten out of eighty individuals affected with lead colic. Monsieur Grisolle first endeavours to determine how far certain conditions of the system and other circumstances are calculated to favour the operation of lead upon the central nervous system. Of the twenty-nine patients thus affected nine were between the ages of twenty and thirty, and eleven were between thirty and forty; and hence he concludes that those persons who are between twenty and forty years of age are more liable to be thus affected than at any other period of life. But before such a conclusion can be admitted, we must be informed of the comparative number of workmen of different ages employed in the manufactories whence the greater part of the above patients were derived. In the absence of positive information on this point, we may remark that it is highly probable that the great majority of the workmen employed were between the ages of twenty and forty, and if so, the inference of our author falls to the ground. Whether our supposition, however, be correct or not, the fact ought to have been noted as forming a necessary part of the calculation, and this leads us to observe, that the numerical system or calculation of probabilities, however sound in principle, is liable to great abuses in practice. In order to arrive at correct results through its means, every circumstance which can materially affect the calculation, should be scrupulously taken into the account, and without this precaution, the method alluded to, although so fruitful in important results when cautiously employed, may lead to the most gross and serious error both in theory and practice.

From the observations of Dr. G., it appears that the action of the red oxyd of lead upon the nervous system, is both more prompt and more powerful than that of the subcarbonate, for among the workmen exposed to the action of the former, the nervous symptoms made their appearance much sooner, and were more rapidly fatal than among those employed in the white lead factories.

It is well known that previous attacks of lead colic predispose to paralysis of the limbs, and the same seems to be the case as regards the acute nervous affections, which we are now considering. One thing, however, is very singular, which is, that these symptoms, although occurring more frequently among persons who have previously had one or more attacks of lead colic, are, nevertheless, less severe under these circumstances than when the individual had been previously free from the disease.

As regards the influence of sex and constitution as predisposing causes, he is not able to arrive at any conclusion.

As regards the exciting causes, Mr. G. observes that it is impossible to say positively that an attack of colic is always the exciting cause of the cerebral symptoms, since in four of the cases these symptoms made their appearance without having been preceded by enteralgia. Nevertheless, it must be admitted that in almost every case they do supervene upon those of colic. The severity, however, of the abdominal affection appears to bear no proportion whatever to that of the cerebral symptom, which frequently supervened in cases when the former were of the very mildest character, and as often proved fatal in the one case as the other.

The cerebral disorders produced by the action of lead upon the central nervous system, assume a variety of forms, which, for the sake of description, Mr. G. classes under three different heads, viz: 1st. Delirium. 2nd. Convulsion

or epilepsy. 3d. Coma. It is rare, however, that the disease preserves any one of those forms completely throughout its whole course. Most commonly the one is replaced by the other without any regular transition, such as is found in most other acute affections of the brain, so that the coma, the convulsion, and the delirium may mark indiscriminately either the commencement or termination of the disorder. After detailing the histories of a number of cases of the disease, our author proceeds to give a general description of it under the different heads above mentioned, and first when it assumes the form of

Delirium. This occurred in seven out of the twenty-nine cases which form the subject of the present memoir. In these seven cases the delirium marked the commencement of the affection, and was the predominant symptom throughout its whole course. In four cases it made its appearance whilst the patients were labouring under the most violent abdominal symptoms, whilst in the three others it occurred spontaneously at a time when the abdominal pain had ceased, when the regular action of the bowels had been established, and every thing promised a rapid convalescence. Hence, it is concluded that the delirium is not sympathetic. Its ordinary precursors are head-ache, vertigo, and acceleration of the pulse. It varies very much as to its character, but is generally furious. Although occasionally intermittent, it mostly assumes a continued form, accompanied by irregular exacerbations, which do not always occur during the evening and night, as in febrile affections. During these exacerbations the ideas are incoherent; the patient utters piercing cries, his eyes are haggard, and his paroxysms of fury are so violent that he attacks his attendants; at other times he is frightened and affected with hallucinations. In some these symptoms gradually disappear, whilst in other cases the patient falls asleep, from which he awakes with his intellectual faculties perfectly restored. In this state he may remain for several hours, or even several days, when, without any apparent cause, the same symptoms reappear. There certainly seems to be much analogy between this form of the disease and delirium tremens. In two of the above cases amaurosis was developed and continued some time after the delirium had ceased. Four out of the seven terminated fatally. The *convulsive or epileptic form* of the disease is the most common as well as the most severe of all, for eleven out of fifteen patients thus affected died. Here the patient falls down deprived of consciousness, the general sensibility is destroyed, without convulsions. After a partial recovery from this condition, which commonly lasts several hours, a second attack comes on, accompanied usually with convulsions, the limbs become rigid, face distorted, &c. These attacks are repeated more and more frequently until the patient falls into a state of coma and perfect insensibility. These convulsions, so fatal to man, are not less so to the domestic animals which frequent the manufactories. The *comatose form* occurred in five cases. One of these was attacked in the midst, apparently, of the most perfect health; the others fell into this condition during the course of an attack of lead colic of slight severity, and which was rather on the mend than otherwise. This state of things was preceded by no symptom which leads to the suspicion of its approach except in one case where the unfortunate workman was suddenly struck with blindness.

The three forms of the disease may be combined together or follow one another in the same individual. The duration of the disease is generally short, varying, however, according to the form which it assumes. Relapses are not unfrequent.

Two of those who recovered were affected with paralysis of the limbs, which lasted several months; and one woman was seized with amaurosis, which was never cured. Paralysis of the limbs, or of one or other of the senses, appears to be the only accident which follows as a consequence of the cerebral disorders of which we are speaking. Notwithstanding the analogy which exists between the epileptic form of the affection and genuine epilepsy, this latter

never occurs as a consequence of the former. It is remarkable, too, that those persons who have been subject to epilepsy for many years, and are employed in the lead manufactories, do not find their attacks either more violent or more frequent. Mr. G. further observes:

"That he does not know of a single instance in which an epileptic patient has been cured by a mere residence in the manufactories, and yet this happy result ought frequently to take place if the doctrine of Hahneman be true, for by their residence in a manufactory of white or red lead, epileptic patients are subjected to the two fundamental conditions of all homeopathic treatment."

There is nothing in the character of the cerebral symptoms which we have been considering, which is absolutely peculiar to them, and our diagnosis must be mainly founded upon our knowledge of the circumstances in which the patient has been previously placed, and especially upon the previous existence or simultaneous occurrence of lead colic. The delirium, as was before mentioned, resembles, in some respects, delirium tremens, and might sometimes be confounded with it. In the former we do not often find that trembling of the limbs and lips and the uncertainty of voice which so constantly attend upon the latter complaint.

The prognosis is very unfavourable, since nearly two-thirds of the patients die. It becomes more favourable the longer the patient survives, and it is rare for any one to die after the sixth or seventh day; for, in the immense majority of cases, death takes place during the first two or three days, or even within a few hours after the beginning of the attack.

In a great majority of the cases, post-mortem examination discovered no appreciable lesion in the central nervous system. In nearly one half, however, of those who died, after having suffered under the epileptic form of the disease, the circumvolutions of the brain were remarkably flattened and the anfractuosities partly obliterated, so that in some cases the hemispheres presented almost an even surface. Hence it is evident that the volume of the brain was augmented, and as the above condition of things was not accompanied either by serous effusion into the ventricles or sanguine congestion, we must admit an absolute hypertrophy or turgescence of the cerebral substance itself.

As regards the nature of the disease, Mr. G. is altogether unable to arrive at a satisfactory conclusion. He thinks, however, that it is not inflammatory, because during life it is not accompanied by fever, is frequently intermittent in its course, appearing and disappearing suddenly without any evident cause; and because, after death, the brain is found either perfectly healthy or free from any lesion which can be looked upon as the result of inflammation.

The treatment must vary according to the form which the disease assumes; all exclusive plans of practice must be discarded. When it shows itself, however, at the same time that the patient is labouring under an attack of lead colic, our attention should be especially directed to the cure of the latter.

Of the efficacy of bleeding in relieving the cerebral symptoms, Mr. G. does not speak in high terms. Although it is proper to abstract blood when the pulse is hard and full, and especially if it be increased in frequency, still, great caution should be exercised; for, on several occasions, venesection was followed by an increase of the symptoms even in cases where the redness of the face and eyes led to the suspicion of cerebral congestion. In no instance did any amelioration follow its employment. Where delirium is the prominent symptom, Mr. G. advises the use of opium, and says, that we must not be afraid of a slight degree of narcotism, which is calculated, in fact, to favour the cure. "Commonly," he says, "the patient sleeps soundly, and upon waking up finds his intellectual faculties restored."

The convulsive form of the complaint is altogether the most intractable. Dr. G. speaks in high terms of cold affusions which were employed in three cases, two of which recovered, and the third was temporarily relieved. In the two

former the paroxysm ceased immediately after the affusion; the patients went to sleep at once, and upon awaking, their intelligence was nearly restored. The affusion should be employed in the interval of the paroxysm, and should be continued for several minutes.

Where coma exists, external revulsions, and especially blisters, are among the most powerful mean which we can employ. It exerts but little effect, however, says our author, when applied to a part considerably distant from the brain. The scalp should be shaved and a large blister applied to its surface. Cold affusion is here, also, sometimes applicable; but it must be more cautiously employed than in cases where delirium or convulsions exist.

T. S.

ART. XIV. *Medico-Chirurgical Transactions, published by the Royal Medical and Chirurgical Society of London, for* 1836. *Volume the twentieth.* London: 1837. 8vo. pp. 402.

We resume our analysis of the present volume of the Medico-Chirurgical Transactions, the first eight articles of which were very fully noticed in our last number. The paper next in order, the ninth, is entitled, "*Pathological and Surgical Observations relating to Injuries of the Spinal Cord.*" By Sir Benjamin C. Brodie, Bart., F. R. S., &c.

This, in almost every point of view, is certainly the most interesting of the seventeen papers which the volume comprises. In relation to the injuries to which, from various causes, the spinal marrow is liable, the phenomena to which these injuries give rise, their relative importance, and the means best adapted for their removal or relief, but little practical or satisfactory information is to be derived from any of the surgical treatises ordinarily consulted by students and practitioners; hence the increased value of the observations detailed in the paper before us, which present a brief but very satisfactory review of each of the above particulars, the name of the author being alone a sufficient guarantee for the general accuracy of his statements and deductions.

We regret that our limits will not permit us to give a full analysis of this excellent paper, which occupies forty-seven pages of the volume before us, and comprises a series of practical observations, derived almost exclusively from the author's own experience. The injuries treated of are—1st. Fractures of the vertebræ without displacement. 2nd. Fractures with depression or displacement of the bone, diminishing the diameter of the spinal canal, and causing pressure on the spinal cord. 3d. Fractures with dislocation. 4th. Simple dislocations. 5th. Extravasations of blood on the surface of the membranes of the cord; which, according to the author, are comparatively of rare occurrence. 6th. Extravasation of blood within the substance of the cord. This extravasation is always of a very small extent, but from its peculiar situation may be productive of the most dangerous symptoms. 7th. Laceration of the spinal cord and its membranes, varying in extent. 8th. Injury of the minute organization of the cord, from a blow inflicted upon the spine, without either fracture or dislocation, and where the investing membranes do not appear to participate in any way in the effects of the injury.

"In such cases, if there be an opportunity of examining the spinal cord at a very early period after the accident has occurred, the central part of it is found to be softer than natural, its fibrous appearance being lost in that of a semi-fluid substance. If the patient survives for a longer period, the alteration of structure is perceptible in the whole diameter of the cord, and occupies from one to two inches, or even more, of its length; and at a still later period it has often proceeded so far as to terminate in its complete dissolution.

"This disorganization, softening, and final dissolution of the spinal cord, is the most common consequence of injuries of the spine; and the dangerous symptoms which follow these accidents, are, in the majority of cases, to be attributed to it."

"The effect of a violent concussion is at once to impair, and even to destroy the functions of the spinal cord, sometimes even causing the patient's death in the course of a few hours; and the question here presents itself—What is the nature of the injury thus inflicted on the spinal cord, so trifling in appearance, so great in reality, which is capable of producing such important and dangerous consequences?"

The author regrets that he has neglected, where a patient has died at an early period after an accident of this kind, to prepare the cord by maceration in alcohol, and endeavour, by tracing its fibres, to ascertain in what respects they are altered from their natural condition. The process of softening and dissolution of the cord, which takes place subsequently, has been regarded by some pathologists as the consequence of inflammation; but a consideration of the following circumstances leads Mr. B. to doubt the accuracy of this conclusion.

"1st. A minute examination of the injured part of the spinal cord will often enable us to detect the commencement of the softening process at a very early period, before sufficient time had elapsed for inflammation to become established, and before any symptoms of inflammation had shown themselves. 2ndly. The softened part of the cord, in the first instance, exhibits no appearance of increased vascularity. 3dly. Even where the softening process is so far advanced as to occasion complete disorganization of the spinal cord, the investing membranes, for the most part, exhibit their natural appearance, there being neither increased vascularity, nor the slightest effusion of lymph, or serum, or pus on their surface. 4thly. The symptoms, which mark the progress of these changes, are merely a continuation of those which the concussion of the spinal cord has occasioned in the first instance; and which, of course, must have been wholly unconnected with inflammation.

"It is true that the disorganization of the spinal cord never proceeds to any considerable extent, without an enlargement of the small vessels being perceptible, such as may be supposed to indicate the existence of inflammation; but this is no more than what happens in the progress of any other disease."

"Although the softening of the spinal cord is not the consequence of inflammation, we must not overlook the circumstance, that inflammation of the investing membranes sometimes exists in combination with it, or that such inflammation may take place where the cord is little or not at all affected in this manner. Inflammation, however, is to be regarded as one of the secondary effects of the injury."

"The peculiar symptoms which arise as an immediate consequence of injury of the spine, may be referred, 1st. To concussion of the spinal cord. 2ndly. To laceration or division of its substance. 3dly. To pressure made on it either by displacement of bone or extravasated blood. Afterwards, inflammation of the membrane of the cord may take place, and other organs may be secondarily affected, giving rise to another order of symptoms, which did not exist in the first instance.

"Taking a general view of the symptoms, we may observe, that they vary—1st. According to the part of the spinal cord on which the injury has been inflicted. 2ndly. According to the kind and degree of injury which the cord has sustained. 3dly. Accordingly, as from accidental circumstances, of which we cannot take cognizance, the life of the patient is prolonged for a shorter or longer period, or ultimately preserved."

The symptoms enumerated are:—

Paralysis of the voluntary muscles below the seat of the injury; this is the most obvious effect of a severe injury of the spinal cord. The paralysis may be either complete or partial. Concussion of the spine often produces complete paralysis; but more frequently the paralysis arising from it is partial. One limb may be paralytic and another not so; or in the same limb certain muscles may be thus affected, while others are still obedient to the will. In some cases the patient

has the power of using his limbs while in the horizontal posture, yet is unable to stand erect. Or the degree of paralysis may vary at different periods. It affects the lower more commonly than the upper limbs.

Paralysis after an injury of the spine, is always a dangerous symptom; but many persons thus affected recover nevertheless.

Muscular Spasms.—Three cases are referred to, in which spasmodic movements of the inferior limbs followed injuries of the spine; in two of these there was some degree of pressure on the spinal cord; and the author is the more inclined to believe that this was the cause of the spasmodic affection of the muscles, as he has not met with any case in which it was proved, by dissection, that this symptom existed in combination with disorganization of the cord, and independently of pressure.

Affections of the Nerves of Sensation.—If the spinal cord be lacerated, or subjected to any considerable degree of pressure, the sensibility of the parts below the seat of injury is totally destroyed. If the injury be in the situation of the sixth or seventh cervical vertebra, the destruction of sensibility is frequently partial in the upper extremities, while it is complete in the trunk and lower extremities; but if the injury correspond with the two vertebræ immediately above these, the patient during the short remaining period of his life, presents the extraordinary phenomena of a living head, with its sensibility and muscular powers unimpaired, attached to a trunk and extremities of the existence of which he is totally unconscious.

"In cases of concussion of the spinal cord, there are the same varieties with respect to the destruction of sensibility, as there are with respect to that of voluntary motion."

"Where recovery takes place, (from injuries of the spine,) the restoration of sensibility usually precedes that of the power of voluntary motion, so that the patient may be quite sensible of external impressions, while he is still incapable of employing his muscles for any useful purpose."

Affection of Respiration.—If the spinal cord be divided or lacerated above the origin of the phrenic nerves, that is, above the situation of the third cervical vertebra, immediate death is the consequence. The nervous influence is no longer transmitted either to the diaphragm or to the other muscles of respiration, and death is produced in the same manner as from strangulation. Pressure made on the superior portion of the spinal cord, in consequence of dislocation or fracture, is attended with a similar result. Dislocations of the first and second vertebræ do not, however, prove fatal in this manner in every instance; two cases are given where the patients, both children, died of the symptoms of hydrocephalus.

"When the spinal cord is seriously injured in the lower part of the neck, (that is below the origin of the phrenic nerves,) or in the upper part of the back, there is nothing to interfere with the due action of the diaphragm, while the intercostal muscles, as well as the muscles of expiration, are rendered paralytic. The patient, therefore, breathes by the diaphragm only."

The patient in such cases is incapable of expectorating the mucus which collects in the trachea; if he coughs, the cough is peculiar, being effected by a forcible inspiration, followed by a sudden relaxation of the diaphragm; and if he be placed in the sitting posture, so that the pressure of the abdominal viscera is removed from the diaphragm, he breathes with much greater difficulty than when he is lying down. All these are to be regarded as very formidable symptoms. Recoveries under such circumstances are very rare.

"Injuries of the spinal cord in the lower part of the neck are not, however, necessarily followed by these results. The pressure on the spinal cord may be so small, or the disorganization of it from concussion may be so trifling, that the muscles of respiration are not, at any period, affected by it; or they may not be so in the first instance, and yet become affected afterwards." "In proportion as the

injury affects the spinal cord lower down in the back, so the respiratory function is in a less degree impaired."

Priapism is a very common symptom of injury of the spinal cord, and Mr. B. states it as a remarkable circumstance, that he has never known it to occur, excepting in combination with paralysis. It is met with in cases of simple concussion of the spinal cord, as well as from pressure; and seems to be connected with injuries of the upper, rather than with those of the lower portion of the cord. This for the most part is an early symptom, and seldom continues after the first fortnight.

Affections of the Urinary Organs.—Retention of urine is a symptom of those cases in which injury of the spine has produced paralysis of the lower part of the body. In the great majority of cases the patient is totally unconscious of the retention, but occasionally he suffers as he would from an ordinary retention of urine, but in a less degree. Retention of urine is usually an early symptom, and in fatal cases continues to the last. In cases where the catheter is not employed the urine flows involuntarily; in other cases there is a constant dribbling of urine, although the bladder is in a contracted state, so that on the introduction of the catheter no urine flows.

"The first effect of a severe injury of the spinal cord is not unfrequently to occasion a marked diminution in the quantity of the urine secreted. This is most observable where the injury is in the lower part of the neck, and where in consequence the function of respiration is very much impaired. The same thing may, however, occur when the injury is in the lower part of the spine. In some cases the urine which is first secreted after the occurrence of the accident, although of an acid quality and free from mucus, has a peculiarly offensive and disgusting odour. In other cases it is highly acid, having an opaque yellow appearance, and it deposits a yellow amorphous sediment. In one case this colouring matter was in such abundance, that it was found after death to have imparted a yellow tint to the mucous membrane of the bladder, which at the same time bore no marks of inflammation, even exhibiting less appearance of vascularity than under ordinary circumstances. But the most common change produced in the urine by an injury of the spinal cord is the following. It is voided of an ammoniacal odour, and turbid; when allowed to cool and remain at rest, it deposits a large quantity of adhesive mucus; and when tested with reddened litmus or turmeric paper, it is found to be highly alkaline. After some time a quantity of white matter (phosphate of lime) may be detected in the mucus, and it is tinged with blood. At a still later period a considerable quantity of coagulum of blood is blended with the mucus and urine. These appearances very commonly show themselves as early as the second or third day after the occurrence of the accident; sometimes not before the end of a week, or even eight or nine days. Mr. B. has not observed that the injury of one part of the spine is more liable to produce them than another. There is a great variety as to the period of their duration."

Affections of the Digestive Organs.—Whatever be the seat of the injury of the spinal cord, the bowels are torpid and the abdomen becomes tympanitic. In many cases there is incontinence of the fæces which have already reached the rectum. Frequently when the injury is in the cervical portion of the cord there is a disposition to vomit. In more protracted cases the alvine evacuations are black and semi-fluid, somewhat resembling tar or treacle in their appearance, and of a peculiar and offensive odour.

Alteration of the vital temperature.—In several cases of injury of the spinal cord at its upper part there was a remarkable evolution of animal heat.

Gangrene, and the formation of sloughs from the slightest pressure, are considered by Mr. B. as direct consequences of the injury of the cord, since they occur equally whether the action of the heart be strong or feeble, and are limited to those parts which are below the seat of injury.

Affection of the sensorium was seldom observed, except where the injury was in the cervical portion of the cord. In a case of fracture of the fifth and sixth

cervical vertebræ, with displacement of bone and laceration, the functions of the sensorium were in no degree disturbed. Another patient, in whom the same portion of the cord was bruised and lacerated, became comatose soon after the accident. A third patient, with fracture of the fourth and fifth cervical vertebræ, and softening of the spinal cord, was at first perfectly conscious and sensible. In less than twenty-four hours he fell into a state of almost complete stupor; then became delirious, and continued so until he died, thirty-six hours after the accident. A fourth patient, with a small extravasation of blood in the centre of the spinal cord, opposite the fifth and sixth cervical vertebræ, died in less than forty-eight hours, being sensible and conscious nearly to the last; the pupils of his eyes were contracted.

In addition to the above symptoms there takes place, as an immediate effect of injuries of the spine, a diminished force of the heart's action, with a state of general depression and collapse. Occasionally a rigor occurs soon after the accident. When the injury is in the lower part of the neck, the patient frequently dies before complete reaction is established. In most cases, however, after twenty-four hours the pulse rises to 96 or 100, but is still feeble and contracted. The tongue is usually dry and parched, and covered with a brown fur, soon changing to a black crust.

When the injury is in the lower part of the neck, or in the dorsal or lumbar portion of the cord, and the patient survives three or four days, or ultimately recovers, the pulse usually remains for a long time more frequent than natural, but feeble and contracted; the tongue at the same time becoming more clean and moist than it was in the first instance. Blood drawn under these circumstances presents a coagulum of large size and loose texture—sometimes having a slight buffy coat in the first instance, but none afterwards. These observations apply, according to Mr. B.'s experience, to all those cases in which the effect of the injury is to induce that softening of the spinal cord which may or may not terminate in its complete dissolution, without exciting inflammation of the membranes.

"Inflammation of the membranes of the spinal cord is undoubtedly a much more rare consequence of injuries of the spine, than inflammation of the membranes of the brain is of injuries of the head. In the cases of this kind which have fallen under Mr. B.'s observation, the process of softening and dissolution of the spinal cord had gone on simultaneously with the inflammation of the membranes, and there were during life all those symptoms by which the existence of the former of these affections is indicated in other instances. But superadded to these, there were profuse perspirations, and severe and repeated rigors, marking the occurrence of suppuration: there were also spasmodic twitches of the voluntary muscles, but not until it might reasonably be supposed that pus was collected in sufficient quantity to make pressure on the spinal cord."

"In reviewing the various consequences of injuries of the spinal cord, we find nothing more remarkable than the following circumstance: that whether the cord be lacerated or compressed, or has undergone that kind of disorganization which is induced by a severe concussion, there is no material difference in the symptoms which arise or in the results to which they lead. The great majority of symptoms also are the same, whatever part of the spinal cord has suffered from the injury.

"There is only one order of symptoms with respect to which a great difference exists, accordingly as the seat of the injury is in one or another part of the spinal cord—those, namely, which depend upon the state of the respiratory function."

We cannot follow the writer in his brief summary of the treatment of the injuries of the spine. He seems to admit that cases of dislocation and fracture, with displacement of even the cervical vertebræ, may possibly occur in which it would be proper to attempt reduction. It is evident, he remarks, that if the attempt be made at all, it must be with the greatest caution. Boyer describes a case in which a child died under it. But there can be no doubt, that when

the injury is in the lower part of the spine, the attempt to effect reduction may be not only made with impunity, but that it may be successful.

In regard to the proposition to apply the trephine in cases of fracture of the spine attended with depression of the bony ring of the vertebræ, with a view to the removal of the depression, Mr. B., after examining the question in all its bearings, remarks, that if his views be correct, "it is evident that the cases in which there are any reasonable grounds for the performance of the operation, must be of very rare occurrence, and that even under the most auspicious circumstances it must be doubtful whether it may not be productive of harm rather than of good to the patient."

10. *Observations on some Tumours of the Mouth and Jaws.* By Robert Liston, Esq.—Our limits will not permit us to attempt an analysis of this paper. The interesting introductory remarks of the author would have to be given nearly entire to do him justice, or to convey much instruction to the reader, while a condensed account of the four cases, the histories of which are comprised in the article before us, would convey but little useful instruction to the surgeon. In all the cases related the tumours were successfully removed by the knife, and the patients recovered with comparatively little deformity.

11. *Of inflammation, chronic disease, and perforative ulceration of the Cæcum, and of the appendix vermiformis cæci, with symptomatic peritonitis and fæcal abscess.* By John Burne, M. D.—The affections treated of in this paper are said to be of frequent occurrence, to be always dangerous, often fatal, and characterized by a train of symptoms so peculiar and marked as to render the recognition of them very easy. The inflammation of the cæcum in all the cases observed by Dr. B. has been symptomatic of some mechanical exciting cause, as the lodgment of undigested food, of fruit stones, or of concretions, which the structure of the cæcum and appendix favours.

"The first symptom is a sense of uneasiness, which soon amounts to an aching pain, deep seated in the right ilio-inguinal region, arising unexpectedly while the person was in health, and not preceded by rigor or exposure. This pain increases progressively for twelve or twenty-four hours, retains its character, is fixed and constant, never even remitting. Then supervene, gradually, tenderness, fulness, and tension of the whole ilio-inguinal region; the bowels are constipated and do not reply to medicine, and the patient grows sick and vomits. Some febrile movement now begins to manifest itself, the tongue becomes white and furred; the urine scanty; the appetite is gone; the pulse is frequent, tight and sharp, with increased volume, but the stroke, though sharp, is not strong, nor is its impression on the finger decided—it is a pulse of irritation and inflammation combined; the patient lies on the back quite still, slightly inclined to the side affected, and the case presents a serious aspect.

"This state of things will persist for several days, the pain remaining of a very severe aching character. The fulness and tension of the part will increase and extend to the other regions of the abdomen which hitherto had been soft and not tender; and a sign will now be present in an eminent degree characteristic of this inflammation, it is an *exquisite tenderness* of the abdominal parietes covering the cæcum, a tenderness far exceeding that of an enteritis, even of a peritonitis; the patient will scarcely allow a finger to be laid upon the part. The constipation continues, but the vomiting does not become so frequent and distressing as in enteritis, nor does the face betray so soon the anxious aspect. Taking the case altogether, it is not such an imminent affair of life and death as an enteritis, though in the sequel it may prove equally fatal.

"A favourable termination cannot be calculated upon till alvine evacuations have been procured, followed by a subsidence of the tenderness, tension, pain and vomiting, all which can seldom be accomplished in less than seven or eight days."

It may occur that all the symptoms persist, and the patient's strength declines seriously about the eighth day, especially if much blood has been abstracted,

when he seems to sink rather from exhaustion of the powers of life than from the effect of the inflammation, and so he dies.

"If life is prolonged, there may be discovered, about the tenth day, a circumscribed emphysematous tumour, presenting in front in the right ilio-inguinal region, or posteriorly, in the corresponding ilio-lumbar region, which will prove to be a fæcal abscess making its way to the surface of the body. Ulcerative perforation of the anterior or posterior part of the cæcum will have taken place; if, of the anterior part, adhesion will have formed around the perforations, and thus the fæcal abscess will arrive at the circumference of the body without involving the peritoneum in a general inflammation; if of the posterior part, which has no peritoneal tunic, then the peritoneum will escape altogether, and the abscess will tend upwards and backwards to the least resisting part of the lumbar parietes, which is the outer edge of the lumborum muscle. This abscess may discharge itself and the patient do well; or nature may be unequal to the task and the patient sink exhausted."

In regard to the treatment of the affection now described, cautious and moderate blood-letting is directed; the quantity of blood taken, we are told, should not be large at any time, nor practised at so short intervals as in enteritis. Leeches to the seat of the disease are strongly recommended, but not in too large numbers nor too frequently. Eight or ten are as many as should be applied at once, and they may be repeated daily at first, then every alternate day with advantage. After the leeches, a warm oatmeal poultice, not too thick nor too heavy, should be applied. The leech bites should not be allowed to bleed more than one hour. The colon should be evacuated by a domestic enema, and aperients given with a view to dislodge the offending matter, as a solution of sulph. soda in half an ounce infus. senna, with four drops tinc. opii to appease the stomach. Should this not be retained, infus. senna with tartarized soda, carbonate of soda, and tartaric acid, in a state of effervescence, will be preferable.

Should this prove ineffectual, it may be proper, lastly, to resort to the compound ext. of colocynth, calomel and opium, in doses of six, two and one grain respectively every six hours. It is seldom necessary, we are told, to bleed from the arm a second time, the application of leeches being more likely to relieve the local affection with less sacrifice of strength.

"A fomentation, dexterously and lightly applied, and persevered in, will prove a most valuable auxiliary; the hot bath should not be proposed, any motion of the body being too painful to admit of its use. About the fifth or sixth day the bowels may begin to act, and lumpy pieces of undigested matter may or may not be recognised in the injections, after which the symptoms will gradually subside and the patient recover."

When a tumour presents itself in the ilio-inguinal or lumbar region, it should be encouraged to the surface by poultices; and the moment it becomes emphysematous a free incision should be made, which will allow the escape of a fœtid gas and fluid, and the cellular tissue will be found to be gangrenous. The strength of the patient is now to be supported by broths, arrow root, weak brandy and water, ammonia, and as soon as possible by the decoction of bark, which Dr. B. prefers here to the quinine; an opiate in a full dose should be given at night to procure rest.

The cæcum is likewise the seat not unfrequently of "a sub-acute chronic inflammation or pathological congestion," producing thickening of its tissues and contraction of its natural capacity, and thus rendering the action of the bowels irregular and difficult, and eventually causing a complete and fatal obstruction. This condition of the cæcum may exist for months or even years. The health of the patient declines, the body wastes away, and the patient dies worn down by sickness, inanition, and the dreadful spasmodic pains arising from the violent efforts of the bowels to overcome the obstruction. It is not uncommon for attacks of peritonitis to supervene, excited by the distension. Several attacks

may even succeed each other at longer or shorter intervals, marked by the characteristic signs.

The vermiform appendix of the cæcum is liable to be the seat of disease. Most frequently, according to the author, the appendix, instead of descending into the pelvis, is situated on the outer edge of the psoas magnus on the fascia-iliaca, simply curled up beneath the cæcum and concealed by it.

If it should happen to descend into the pelvis, in the event of a perforative ulceration, and consequent peritonitis or fæcal abscess, the pelvic viscera will be implicated; if the appendix, however, be situated on the iliac fascia beneath the cæcum, then the belly of the iliacus intervenes and the neighbouring adipose cellular tissue will be involved, and the course of the abscess determined accordingly. Small portions of the residuary alimentary matter, or indigestible substances, as seeds, cherry stones, intestinal concretions, &c., are liable to pass into the cavity of the vermiform appendix. These bodies, when small, may not produce for a time any bad consequences. Even small bodies may, however, if they remain long in the cavity, induce ulceration of the mucous membrane—a lesion often found, without causing more inconvenience than results from a superficial ulceration of any other part of the alimentary canal. But if a substance larger than the canal of the appendix happens to be forced into it and become impacted, then not only does it produce ulceration of the mucous membrane, but of all the other tunics, until it reaches the peritoneum, which being thus deprived of its means of nutrition, dies, sloughs, then bursts, and a perforation is effected, and peritonitis ensues; which may be general, or it may be limited to the vicinity of the perforation, and give rise to an abscess. Though the latter is always a dangerous occurrence, it may nevertheless come forward, burst, discharge itself, and the patient recover; or it may remain circumscribed and stationary, forming a deep seated painful tumour in the vicinity of the cæcum, producing obstinate costiveness, a sympathetic disturbance of the stomach and of the whole system, and thus gradually wear down and exhaust the unfortunate patient. In one case the tumour burst in the bowel, and the patient recovered perfectly.

12. *On black expectoration and the deposition of black matter in the Lungs, particularly as occurring in coal miners, &c.* By William Thomson, M. D., of Edinburgh.—Dr. Thompson remarks, that the presence within the body of different kinds of morbid matter of a black colour, has been accounted for, by supposing that they are in some cases the products of secretion; in others, extravasated blood; and in others again, foreign substances introduced into the body from without. The frequent occurrence of black discoloration of the sputa during life, and of a black matter in the lungs and bronchial glands after death, more frequently than in other parts of the body of which such matter does not form a constituent, has led to the suspicion, that in many instances these appearances must depend on the introduction of foreign substances into the respiratory organs by inhalation, and are not referable to either secretion or extravasation.

In the paper before us Mr. T. has endeavoured to ascertain in which of the various ways above mentioned the black sputa and deposition of black matter in the pulmonary organs take place; to determine how many varieties of black discoloration of the sputa and lungs ought to be recognised, whether attributable to external or internal origin; and how these may be distinguished from one another during life, or on examination after death.

Mr. T. is particularly desirous to call the attention of the profession to the evidence in favour of the extraneous origin of the black matter by which the sputa are liable to be discoloured and the lungs to be infiltrated, which has been supposed to be derived from the occurrence of these affections in persons who, from their occupations, are particularly exposed to the inhalation of carbonaceous powders or gases, such as coal miners and moulders in iron works. The paper

is divided into three parts. In the first are brought together all the individual cases of these affections as occurring in the class of persons first alluded to, which have come to the knowledge of the author and of his father, together with several communications relative to the same subject from gentlemen who have had an opportunity of witnessing these affections on an extensive scale. In the second part are briefly recapitulated the observations and opinions respecting black sputa and black infiltration of the pulmonary organs to be found in the writings of authors, previously to the time at which these appearances began to attract attention. The first part only is now presented. This comprises a large mass of highly interesting facts in relation to the subject the author has undertaken to investigate. We regret that it is impossible to present a satisfactory analysis of these within the limits to which we are necessarily restricted.

13. *Sequel of the history of a case in which the external iliac artery was tied, with an account of the condition of the blood-vessels in the limb after death.* By G. Norman, Esq.—The case, the sequel of which is now given, is related in the 10th volume of the Transactions, page 95. The patient continued free from any aneurismal disease after the operation. During the last two years of his life he had several slight threatenings of apoplexy, and was habitually subject to swelling of the feet and legs. He died February 2nd, 1834, of Asiatic cholera. The external iliac vein, on dissection, was found to be pervious. The external iliac artery was obliterated from the bifurcation of the common iliac to a point corresponding nearly to the lower edge of Poupart's ligament, and about one-eighth of an inch above the origins of the epigastric and circumflexa ilii arteries; here it became pervious, and of equal size with the vessel of the other limb.

"The cord occupying the place of the obliterated vessel was of considerable size; the arterial coats perfectly distinct; and a probe introduced into its centre readily separated the adherent surfaces of the internal coat, until it reached a point about an inch above Poupart's ligament, where all traces of the natural textures were lost and replaced by a dense fibrous bundle. About four inches below the crural arch, at the outer and posterior part of the femoral artery, was found a mass as large as a small walnut, composed of dense fibro-cellular substance: it involved the first part of the common origin of the profunda and external circumflex arteries, which, though obliterated, could be distinctly traced to the femoral. A portion of the profunda of about two inches was thus circumstanced; no injection having passed into it; and the remaining part of the vessel, which was of small size, being filled by the communication of its branches with other sources of supply.

"The collateral circulation had obviously been mainly carried on by the ramifications of the internal iliac artery, which was nearly as large as the femoral. The manner in which it was effected may be described as follows: 1. The ilio-lumbar artery, of very large size, gave several branches to the lumbar plexus of nerves, descending in the substance of the anterior crural nerve, as several elongated tortuous vessels communicating at the upper and outer part of the thigh with branches ordinarily derived from the external circumflex, and reaching to the fibro-cellular mass already noticed. Other ramifications of the ilio-lumbar anastomosed with those of the circumflexa ilii; and also by that medium, on the one hand, with the inferior lumbar arteries, on the other, with the external circumflex of the thigh. 2. The obturator artery was proportionately much the largest division of the internal iliac, and with its branches very tortuous. Immediately before its passage through the obturator foramen, it gave off a large branch communicating with the epigastric at a very short distance from its origin, and forming apparently the chief source of supply to the epigastric, which was itself comparatively small. Directly after its emergence at the upper and inner part of the thigh many of its external ramifications, much enlarged and very tortuous, inosculated freely with corresponding branches of the internal circumflex, also of large size. 3. The gluteal artery was of average size: some of its anterior branches emerging on the dorsum of the ilium from among the gluteal muscles, united with ascending branches derived from the external circumflex of the thigh.

4. The ischiatic artery was enlarged, and communicated tolerably freely with the posterior divisions of the profunda. 5. The internal pudendal artery was also of unusual size, and numerous tortuous twigs, collectively of considerable capacity, derived from its external branches, established a communication between the internal iliac and various branches chiefly of the internal circumflex at the upper and inner part of the thigh."

14. *Researches on some points of the Pathology of Pulmonary Tubercles.* By P. N. Kingston, M. D.—The design of the present paper is to show—1st. That the common pulmonary tubercle is a vascular texture. 2ndly. That it sometimes originates in an alteration of the air-cells and their secretions; and 3dly. That now and then it is entirely healed, when it has even extended over a very large portion of the lungs. The facts and arguments adduced by the writer in reference to these several points are interesting and ingenious. To present, however, a fair exposition of the author's views and the data upon which they are based, would be impossible, in a brief notice of the paper, while our limits will not permit us to give to our readers an extended analysis of it. It well deserves, however, an attentive perusal, as every attempt to throw light upon the origin and nature of pulmonary tubercles must be considered of importance, by leading to an improved and more successful treatment or a more certain prophylaxis of what is now one of the least manageable forms of consumption of the lungs.

15. *Observations on some of the Forms of Atrophy of Bone.* By Thomas Blizard Curling.—Of this paper we can present only a very brief sketch. Atrophy, it is remarked, may occur in the bones generally, or be limited to certain bones, or to particular parts of bones, and it may be expressed by a deficiency of the earthy particles alone, or of all the constituents. Local atrophy is generally found to be induced by pressure or friction, as in bones obstructing the growth of cystic, aneurismal, and other tumours. As, in these cases, vascular structures waste faster than those less highly organized, it is most probable that the process is one of absorption, those parts being more rapidly removed which are best supplied with the active agents that carry off their molecules. In atrophy from pressure, the animal and earthy constituents are removed equally and together.

Local atrophy is sometimes the result of an injury, being produced by an action different from that commonly known by the term caries, following contused wounds and other injuries. Instead, however, of being limited to a part of a bone, or to the seat of injury, atrophy may be occasioned in the entire bone from this cause, so that, without any evident alteration in external configuration, by a change affecting both hard and soft particles, the bone may be rendered smaller and of diminished weight. This, in order to denote the direction of the wasting, and to distinguish it from another form, may be, the author conceives, correctly termed *concentric atrophy* of bone.

The bones, as well as the soft structure, waste away whenever their activity is diminished or their functions suspended. This is seen in the bones of stumps after amputation, and in the bones of anchylosed limbs. Bones likewise waste in common with other tissues, when deprived of nervous influence. Atrophy is observed to be an effect of a diminution in the normal supply of blood; but the author is not aware that any example has hitherto been pointed out of *bone* wasting from this cause. It nevertheless occurred to him, that in fracture of the long bones, one part must have the supply of blood it derives from the nutrient artery entirely cut off, when, although both the periosteal and nutrient vessels of the bone communicate freely with each other, yet the minute canals, through which the former pass, being of a dense, unyielding nature, these vessels must be prevented from undergoing that rapid increase of size, which, in the soft structures, constitutes so efficient a provision for a due circulation. He accordingly examined sections of fractured cylindrical bones, in

order to ascertain if the ends which had been deprived of their normal supply of blood from the nutrient artery, underwent a corresponding degree of atrophy; and he found in nearly all the specimens first examined such was the case. Thus in femurs fractured below the entrance of the nutrient artery, the interior cavity of the inferior extremity was enlarged, the cancelli expanded, and the walls thinned, a form of atrophy which he proposes to distinguish by the term *eccentric*. A like alteration was observed in fractured tibiæ, whilst in a humerus, broken near the middle and somewhat above the entrance of the nutrient artery, the upper portion was the seat of this change.

"This wasting of the osseous tissue in that part of a fractured bone, deprived of its usual supply of blood from the medullary artery, is not *constantly* met with; and if the explanation, which attributes it to defective nutrition, be found correct, we should expect that atrophy would not be observed under the following circumstances:—

"1. In bones recently fractured: because the process by which atrophy is accomplished must necessarily be gradual, hence some time must elapse before it will be perceptible.

"2. In bones long united: because a collateral, if not the regular circulation is subsequently, though not immediately established, by which means the previously existing lesion would have been repaired. In old persons, and in those of weak powers, the circulation may never be completely reinstated, in which case the atrophy will be permanent.

"3. In bones fractured during the period of growth: because the circulation in bone, as in other structures, being at this time more active, the vessels being larger and more numerous, and the canals through which they enter the osseous tissue less dense and but imperfectly formed, the circulation is re-established before any visible degree of atrophy can ensue."

The absence of ossification, consequent upon a diminished supply of blood, is regarded by Sir A. Cooper as the principal reason for the want of union after a fracture of the neck of the femur within the capsular ligament.

There is one species of *eccentric* atrophy of bone of such rare occurrence that the records of our profession scarcely furnish twenty well marked examples; this constitutes the disease commonly known by the name of mollities ossium. A striking case of this affection is given by the author, followed by some interesting observations in reference to softening of the bones generally, of which, we regret, it is not in our power to lay before our readers even a brief notice.

16. *A Brief Account of the subsequent Medical History of Mary Wren, whose case is detailed in the thirteenth volume of the Society's Transactions.* By Mr. Birch.—It appears that about nine months after Mr. Birch's attendance this female became pregnant, and miscarried at the fourth month; that in 1831 she again became pregnant, went her full time, and was delivered of a living child, after a good and natural labour; and that she again, and for the third time since the accident of 1827, conceived in the month of October, 1834; labour occurring on Sunday, the 21st of June, 1835, and death on the following Friday.

On the night of Saturday, a little before 12 o'clock, Mr. Skinner states, "that he found the uterus acting with great power and frequency, which it continued to do for three hours, and then its contractions suddenly ceased, the patient complaining of a most excruciating pain in the abdomen." At this time Mr. Thorn saw her. Upon making an examination he found the funis presenting, together with a hand; the os uteri fully dilated, and the pulsation in the funis ceased. He immediately introduced his hand, and brought the feet into the vagina, and very easily made the evolution of the child. The delivery was effected with little or no difficulty, notwithstanding the fœtus was rather beyond the ordinary size. No exertion was made in bringing the head through the superior aperture of the pelvis; there was no hæmorrhage, no vomiting; pulse firm and regular; nor did the countenance indicate that laceration of the uterus had again taken place. The body was examined, June 27th. The morbid appearances were as follows:—

"The whole peritoneal membrane highly inflamed. The abdominal viscera adhering to one another by coagulable lymph. The omentum of a deep red colour and highly vascular, and closely adherent to the intestines and to the fundus of the uterus. The serous covering of the uterus exhibiting signs of severe inflammation, lymph being thrown out in a thick layer over the fundus and part of the body. The broad ligament, the ovaria, and the fallopian tubes highly inflamed, and partially imbedded in lymph and pus. The whole of the pelvic viscera being removed, a lacerated opening was found extending across the cervix uteri in its anterior part, and dipping into the sides of the uterus also; the edges of the wound extremely ragged, without granulation, and no attempt at union apparent. Upon the most careful inspection there was not discovered any cicatrix of the former rupture, and there was reason to believe, from the evident *cause* of the accident on *both* occasions, it must have taken place precisely in the same spot as the present laceration. A very prominent linea ilio-pectinea, together with a brim below the average size, would appear to have been the *immediate* cause. The dimensions were as follows:—

"Antero-posterior diameter, 3 inches 2 lines. Diagonal diameter, 4 inches 3 lines. Symphysis pubis, very prominent within; and the linea ilio-pectineæ, raised full two lines, and exceedingly sharp at their edges."

17. *Case of Removal of a portion of Lung which Protruded through a Wound, etc.* By W. Forde, Esq.—A Fingo of athletic make and good health, aged about 35 years, in an engagement with the Caffers, was transfixed by an azigai through the right side; the weapon entered opposite to the eleventh rib, three inches from the spine, and the same distance from the crest of the ilium; and made its exit in the right hypochondrium, midway between the umbilicus and the cartilage of the ninth rib, the openings being three inches distant from each other; and the whole course of the wound, supposing it to be in a direct line, six inches in length.

The man immediately withdrew the shaft of the weapon through the anterior opening, and with it dragged forth a considerable portion of lung. He was soon afterwards picked up by some wagons which happened to pass, and a greased rag being applied to the part, he was conveyed to the camp early on the following day. His respiration was then slightly oppressed and impeded, he inclined to the right side, but did not complain of pain. The piece of lung protruded was about five inches in length, and of considerable thickness, and the opening through which it had escaped, being merely an incision three-fourths of an inch in length, reduction of the part was impracticable without considerable dilatation being practised, a measure, which, from the situation and nature of the wound, was deemed extremely hazardous, if not impossible. But the attempt to return the lung into its natural situation was unadvisable, its texture and serous covering having been much lacerated by the man's own endeavours to tear it away; its removal was therefore determined on. A ligature was applied tightly around it close to the integuments, and the edges of the wound were brought together by means of a strip of adhesive plaster, leaving the protruded lung undivided, until the process of adhesion should take place and prevent the motions of the thorax and expansions of the lungs drawing the contracted part into the pleural cavity, together with the ligature, or the slipping off of the latter, receding of the lung and hemorrhage into the thorax.

On the third day adhesion being perfect, and the separation nearly effected by the ligature, the piece of lung was cut off with scissors, and both openings dressed with adhesive strips. From this moment there was not one untoward symptom, and the only medical treatment required consisted in giving a dose of Epsom salts. For a few days there was a healthy discharge from the opening in the back, which gradually ceased and the wound granulated; at the expiration of a fortnight the whole had healed, the man had quite recovered, and

he can now run, throw his azigai, and perform any other active feat, as well as any of his most agile companions.

"I confess," remarks Mr. Forde, "I am at a loss to account for the protrusion of a piece of lung, (and lung it most decidedly was, having been carefully examined by Assistant Surgeon Bickersteth and myself, and its texture and appearance could not easily be mistaken,) in the centre of the right hypochondriac region, as connected with the apparent course of the wound, unless it be assumed that at the moment it was inflicted, the man had been in some extraordinary crouching position. Of necessity the diaphragm, with its pleural and peritoneal coverings, must have been perforated, and yet the man recovered without a single symptom of pleuritic, peritoneal, or pulmonic inflammation."

D. F. C.

ART. XV.—*Essay on the Mineral Waters of Carlsbad, for Physicians and Patients.* By Chevalier JOHN DE CARRO, M. D., of the Faculties of Edinburgh, Vienna, and Prague, and Physician at Carlsbad during the season. *With Observations on the Microscopic Animalcules about the Hot Springs of Carlsbad.* By Mr. A. J. C. CORDA, of Prague, and a Flora of Carlsbad, by Professor C. B. PRESL, of Prague. 12 mo. pp. 136. Prague: 1835.

Wenzel Payer, of Ellbogen, wrote the first medical treatise, in 1521, upon the waters of the ancient and far famed thermal springs of Carlsbad, but their virtues had been sung in Latin hexameters five and twenty years previously by Bohuslas de Lobkowitz, a Bohemian nobleman. These springs have been the constant resort, since the fourteenth century, of crowds of people labouring under almost every form of disease, or belonging to that class in society, happily more numerous in Europe, than in this country, who spend the better part of their lives in search of the means for restoring that health which, by a luxurious and intemperate course of living, they are hourly rendering more and more infirm.

Formerly the mineral waters of Carlsbad had a reputation for remedial virtues, in numerous complaints and infirmities, which later experience has shown to be greatly overrated—but even at the present day, when their active properties, as well as their effects upon the living system, both in health and disease, are well understood, they have lost nothing of their former fame—thousands of patients still resort to them annually, from almost every part of Europe: thus in 1834, the number of permanent visiters amounted to 6165 individuals.

Carlsbad is situated sixty German miles from Vienna, and sixteen from Prague, in a deep and narrow valley, between granitic rocks, on both sides of the Teple, which empties itself into a larger river, the Egra, very near the town. The houses are all built on the declivity of the hills, and on the banks of the Teple. These hills beautifully wooded, offer innumerable and well kept walks, a great variety of prospects, and an interesting field to lovers of geology and botany. According to the late observations of David, Royal Astronomer at Prague, Carlsbad lays in 50° 13′ 38″ of Lat., 30° 32′ 47″ Long., and 182 fathoms above the level of the sea near Hamburgh.

All the hot springs of Carlsbad rise from the same natural reservoir, by different orifices, each having a different name and temperature. Their number has often varied, new ones occasionly appearing, while others disappear and are again restored. The boiler which supplies them all, is formed from the mineral sediments of the water itself, and has a depth, thickness, extent and ramifications, which no human eye can scrutinize, while the enormous mass of hot and dense vapour, escaping from every accidental or artificial opening, will probably baffle all attempts to ascertain the dimensions of this wonderful laboratory. Such trials were made in 1713 and 1727, after a rupture of the

boiler had occurred. The various boring and probing instruments penetrated through the calcareous crust, from one cavity to another, until at length they arrived at an immense reservoir, the boundaries of which could not be reached by poles joined together to the length of thirty fathoms. That a great part of the town stands upon these cavities is sufficiently demonstrated, whenever the foundation of a new house is laid: copious streams of carbonic acid gas are likewise seen constantly bubbling up from the river, near the wells.

The Sprudel spring to which superior powers are attributed, is situated on the right bank of the river, in the centre of the town its temperature is 168° Fahrenheit. It has various orifices, two of which only are adapted to public use. The vapour of one of these supplies the steam baths. Broad square stones and long boards are placed over the thermal chaldron to protect it against the large masses of ice and floating trees, which, in their rapid course, when a thaw or inundation takes place, might break through the crust, and disturb the equilibrium indispensable to the regular spouting of the water. In order to prevent such ruptures, the repair of which is always slow, troublesome and expensive, the incrustation about the orifices of the spring is removed four times a year by a boring apparatus.

The springs of the Sprudel fountain are thus explained: The upper parts of the reservoir become filled with carbonic acid gas, which escapes the more freely from the hot fluid mass below, as the pressure upon the latter diminishes with the evaporating of the gas. In this free state, the gas accumulates in the upper part of the cavity, and finally depresses the surface of the water, which rushes out of the same orifice—the two in the form of vapour escape together, giving in a minute, without intermission, eighteen or twenty ebullitions, from four to eight feet high. A hollow, unequal and subterraneous murmur accompanies the emission of so much water, which, divided into myriads of globules, falls back into the same vessel, (now in the form of a large artichoke,) from whence it springs, and is led by lateral pipes to the baths, to the evaporating apparatus for the manufacture of sulphat of sodæ, and to the adjoining river. The height of the springs can be increased more or less, according to the breadth and length of the square wooden pipe, through which the water ascends; it nevertheless remains a springing fountain, without the addition of a pipe. The Mühlbrunn with a temperature of 135° Fahrenheit; the Neubrunn, 147° Fahrenheit; and the Theresienbrunn 132° Fahrenheit, on the left side of the Teple, communicate together, and like the Sprudel fountain, are decorated with elegant buildings, collonades and gardens. The Schlossbrunn 122° Fahrenheit, is much less frequented, on account of its elevated situation, while the cavernous Bernardsbrunn is scarcely accessible to drinkers; its abundant water, nearly as hot as the Sprudel, is led into a reservoir, necessary for cooling the Mühlbrunn baths. Some opthalmic patients use its vapour at random, without medical advice. The Spitalbrunn supplies the baths of the St. Bernard's Hospital, and is frequented only by the inmates of that institution.

M. Berzelius found that every 1000 parts by weight of the Sprudel water, contained—

Sulphate of Soda	2,58713
Carbonate of Soda	1,26237
Muriate of Soda	1,03852
Carbonate of Lime	0,30860
Fluate of Lime	0,00320
Phosphate of Lime	0,00022
Carbonate of Strontian	0,00096
Carbonate of Magnesia	0,17834
Sub-phosphate of Alumine	0,00032
Carbonate of Iron	0,00362
Carbonate of Manganese	0,00084
Silicia	0,07515=5,45927

The Mühlbrunn, Neubrunn, and Theresienbrunn were found to contain, not only the same ingredients, but in precisely the same proportions.

Becher ascertained that the Carlsbad water possessed as much carbonic acid as its bicarbonates could contain, with the exception of that of the Sprudel fountain, in which there was rather more. The Theresienbrunn contains likewise one per cent. of azote.

It appears that for a long time the Carlsbad waters were employed almost exclusively, as a remedial agent, in the form of baths—on the suggestion, however, of Wenzel Payer, in 1521, they became also to be used internally, while, since 1827, exposure to the steam arising from the springs, was conjoined to bathing in the water and its internal use. The junction of these three curative means, the author remarks, has manifestly increased the fame of these springs. Although they are all often prescribed in the same case, drinking the water is still considered as the most important. A great many patients are cured without either water or vapour bathing, but few by bathing without drinking.

Whichever of the springs patients are recommended to, they come regularly from six to eight o'clock in the morning. Some drink a few goblets in the evening. The interval prescribed between the draughts being fifteen minutes, scarcely more than nine or ten can be taken within the two hours. This quantity proves sufficient in most cases—many patients, however, using a much greater number, begin earlier. Formerly, we are informed, when the purgative effect of the waters was deemed the most important, physicians encouraged plentiful drinking, but since their alterative and slowly deobstruent action has been better understood, and it has been found that the alvine discharges are seldom proportioned to the quantity of water drunk, they have, in general, advised patients in the use of the water not to overpass that degree of saturation which borders on disgust.

The season usually begins at Carlsbad on the 1st of May, and terminates by the end of September. The action of the waters upon the cutaneous functions being promoted by warm weather, June, July, and August, are the months during which the greatest number of visiters attend.

The water of these springs occasions neither nausea nor vomiting; it has an exciting action on the stomach, bowels, kidneys, liver, and other abdominal organs, augmenting their secretions and excretions. It acts especially upon the blood-vessels, creates often an orgasmus and palpitations with determination to the head. It increases indirectly the activity of the lymphatic system, and only becomes a tonic after it has augmented the secretions and excretions. The disorders to which these waters are considered as best adapted, are those proceeding from "stagnation and obstructions of the blood-vessels, or of the organs copiously provided with them," giving rise to "weakness of the stomach, heart-burn, acidities, swelling, eructations, costiveness, which, complicated with derangements of the nervous system, obstruct the liver, the spleen, the mesentery, the epiploon, produce biliary concretions, jaundice in all its degrees, hypochondriasis with its visions, fluent and blind piles, head-ache, vertigo, and all sorts of arthritic, herpetic and urinary complaints."

The waters used as a bath, "assist powerfully the internal cure, in a variety of rheumatic, gouty and herpetic cases—and often facilitate the passage of biliary and urinary concretions; they are more efficacious, and less productive of congestions, when the secretory and excretory action of the water on the bowels and kidneys has already commenced."

The steam from the springs is applied either as a general or partial bath—if the patient takes only a half-bath, sitting in the box up to the pit of the stomach, he can bear a few degrees of heat more than in a whole bath. Few can support a whole steam bath above twenty minutes, but he can a half bath for a longer period. The head is never exposed to the vapour, in consequence of the carbonic acid gas, with which it is combined. "Some patients, labouring under *tic douloureux*, after having tried innumerable remedies, and even surgical

operations, have been, if not radically cured, at least essentially relieved," by the steam bath. It has also proved useful in some cases of deafness—"if such patients cannot support the stream of the vapour-douche in the inside of the ear, it must be directed to the neighbouring parts of the organ. In rheumatism, lumbago, sciatic, stiffness of the joints, contractions of muscles," the vapour affords a precious remedy whenever these cases are unattended with febrile symptoms. In herpetic eruptions, and "in the herpetic spots," they are useful, conjointly with the internal use of the waters, but far less than the sulphureous fumigations.

The patients who resort to Carlsbad are placed under an appropriate and regulated regimen and diet, which no doubt has a very powerful influence in augmenting the curative effects ascribed to the waters. Carlsbad, remarks our author, being nothing more than a most elegant hospital, is by no means a place of dissipation. The amusements are of a quiet and moderate kind; the necessary early hours for attending the wells in the morning prevent late ones at night; the strict prohibition of hazard games; the obligation of submitting to a sober diet, and of taking much bodily exercise, have introduced very regular habits into society, and more than one gastronome and hard drinker has began at Carlsbad to understand the incalculable advantages of sobriety and temperance.

To the essay of Dr. De Carro is appended some very interesting observations upon the microscopic animalcules found about the hot-springs of Carlsbad. The wood and stones, as well as the boards and pipes in the immediate vicinity of the wells, are covered with a slimy, gelatinous green substance, of more or less thickness, and often lamellous. Carefully examined, this matter is found to be composed of myriads of elegantly and symmetrically formed beings, of an infinite variety of forms, most of them belonging to the animal kingdom; the forms, modes of life and propagation of which, cannot but excite the highest degree of astonishment. These animalcules, whose size is frequently only the fifteen millionth part of a Paris inch, and seldom more than the nine thousandth, are endowed with organs, simple indeed, if compared with those of a higher order of animals, but complicated proportionally to their own bodies. They move, give signs of feeling, of self-preservation and of propagation, and often even of the means of appropriating to themselves extraneous substances, foreign to their nature. M. Corda divides these animalcules, according to their organization, into two classes, subdivided into six families. The three first families have a brittle tegument; the three last a flexible one. A description is given of the external forms, organs of motion, nutrition, and propagation of these animalcules, which our limits will not permit us to copy; nor would it be very intelligible, unless accompanied by the drawings given in the work before us. Neither have we room for a notice of the Flora of Carlsbad, by Professor Presl, with which the volume closes.

The entire work is an extremely interesting one; and although we might with propriety regret that that portion of it which is strictly medical had not been presented in a more scientific form, and that the author had not entered more into details, when treating of the therapeutical application of mineral waters that have obtained so much celebrity in the cure of disease as to be imitated artificially at Brighton in England, we shall refrain from finding any fault until some one from among our own physicians shall present us with better accounts of the more noted mineral springs of this country. D. F. C.

ART. XVI. *Der Wasserkrebs der Kinder.* Eine monographie von Dr. ADOLPH LEOPOLD RICHTER, Stabsarzte des Königlichen Medizinischen Friedrich-Wilhelms-Institutes, &c. 8vo. pp. 84. Berlin: 1828.
On the Water-Canker of Children. By A. L. RICHTER, M. D., &c.

Water-canker is the popular denomination, in Germany and Holland, for the gangrenous ulceration of the mouth, which is occasionally observed in children, especially of the poor, or as an endemic in the asylums and other institutions for the reception of destitute infants. This affection, which, from the insidious manner of its attack, the rapidity of its progress, and its very great fatality when neglected or improperly treated, must be viewed as one of the most formidable of those which occur during infancy, is happily of not very frequent occurrence in this country; while in various parts of Europe it would appear to prevail extensively, especially in hospitals, among the offspring of the poorer classes, and in low, damp, and otherwise unhealthy locations. Thomassen and Thyssen, two recent Dutch writers on the disease, state that it occurs often as an epidemic in the Netherlands, after different eruptive and gastric affections. We are presented, in the treatise before us, with an able and interesting digest of the present state of medical knowledge in relation to the disease; and as there is scarcely an English writer who has given any account of its symptoms, pathology or treatment, we have been induced to present to our readers a brief analysis of the more important observations of Dr. Richter, notwithstanding several years have now elapsed since the period of their publication.

Dr. R. considers the general symptoms by which the gangrenous ulceration of the mouth is accompanied, to have a close affinity to those proper to the disease described by the older physicians under the name of *stomacace*, of which he believes it to be, in fact, a mere variety.

He divides the water-canker, according to the difference of its causes and phenomena, in three distinct species.

1. *The Scorbutic.*—This is by far the most frequent. It includes, according to our author, all those cases which occur endemically in orphan asylums or in situations bordering upon the sea. The local affection is, ordinarily, preceded by a series of debilitating causes, or by some disease which has impaired the organic energies of the system. The precursory symptoms are general debility, listlessness, indisposition to engage in play, or even to move about; the little patient cries frequently, is discontented, and desires to sleep, without the ability. The countenance becomes pale and dejected, and a puckering of the cheeks about the corners of the mouth is observed. The child becomes emaciated, and is subject to nocturnal sweats; it has no appetite for food, but has in general an increase of thirst. It continues in this state often from eight days to two weeks, before the local disease occurs. At length the patient experiences sharp pains in his mouth and gums; a fœtor of the breath is soon observed, accompanied with an increased flow of saliva; a sense of itching or pricking and heat is experienced in the gums, which assume a dark red hue, become swollen, and bleed upon the slightest touch. The salivation augments rapidly, accompanied usually with some discharge of blood; at the same time the salivary glands become swollen and painful. The appearance of the mouth at this period has a close resemblance to that ordinarily induced by the use of mercury, so much so, that experienced physicians have often attributed the disease to the latter, notwithstanding the parents of the child have asserted that no medicine of any kind has been administered to it.

When the local disease is not arrested, the periosteum of the gums separate from the roots of the teeth, causing these to become loose, and frequently to fall out of their sockets. Fever generally occurs about this period, at first being confined to the latter part of the day, and accompanied with an increase of the

night sweats; a diarrhœa is also of not unfrequent occurrence. The disease may continue in this state for weeks, or even months. Generally, however, in a few days, actual gangrene or gangrenous ulceration occurs. The gums become covered with ash-coloured vesicles, which, rapidly enlarging, coalesce and rupture, laying bare the gums beneath in a black and gangrenous condition. When ulcerations occur, they present slightly inflamed, elevated, uneven and irregularly circumscribed edges, with a rough surface, of a gray or rather greenish colour. When separation of the black or gangrenous portions of the gums takes place, an ulcer, similar in form to the slough, remains, which assumes immediately a gangrenous appearance. The gangrene rapidly extends itself, laying bare the alveola and inferior maxillary bone. The teeth fall out, and portions of dead bone are thrown off, provided the patient does not sink under the disease at an earlier period. The gangrene extends from the gums to the lips, cheeks, and other soft parts of the face, which become more and more swollen as the disease progresses. At this period of the disease, but sometimes earlier, there is a difficulty experienced in moving the lower jaw, in consequence of which the mouth becomes firmly closed. This evidently arises from the swelling of the soft parts, and the pain produced by every effort to move the jaw.

One or more grayish spots make their appearance upon the mucous membrane of the mouth, in a few hours changing into ulcers that present a similar character to those already described, and producing invariably a great loss of substance. The gangrene will often extend itself, in from three to seven days, over the whole of the soft part surrounding the mouth. The fever, augmenting in intensity, now assumes a nervous or hectic character, and the child dies, generally about the eighth, or, at the latest, on the fourteenth day from the commencement of the gangrene; its body presenting all the indications of a general colliquation.

2. *The Gastric Water-canker.*—This, according to Dr. R., is but rarely met with. Many of the cases reported by Boott, Lund, A. G. Richter, Cullen, and other writers, he believes to be of this kind. It is attended by the following symptoms: Loss or augmentation of appetite during the entire continuance of the disease; a coated tongue, but seldom any aphthæ, are observed. There is not any affection of the general system as in the former species, the disease attracting but little attention until gangrene has occurred. The occurrence of the gastric form is in general sudden; the patient becomes all at once agitated and peevish, and is affected with slight accessions of fever, especially if the intumescence of the face has already commenced. These symptoms are usually accompanied with a sense of uneasiness, nausea, vomiting, diarrhœa or constipation. The gangrene, in place of commencing at the gums, occurs first in one of the cheeks, the commissure of the lips, or in the mucous membrane of these parts; extending thence, when the disease has attained its height, in many instances to the gums and maxillary bones. The local affection commencing in the cheek; this becomes swollen, hard, red, and shining; an increased flow of saliva takes place, and there is exhaled from the mouth a peculiar and highly offensive odour. Upon the inner surface of the affected cheek will be found one or more small, ill-looking vesicles, which in a few days rupture and give rise to a malignant ulcer of a dirty gray colour, which augments rapidly in size, having a rounded form, with red, distinctly circumscribed edges. The ulcer within the cheek is not always immediately detected, and it is sometimes entirely overlooked, as well from the external swelling occupying the whole of the attention of the physician and attendants, as from the patient being unable to open the mouth sufficiently wide to permit of an examination of the internal surface of the affected cheek. The ulceration within becoming deeper and more extended, there occurs on the external surface of the cheek, where the swelling is the greatest, a livid spot, surrounded by a red areola; this soon acquires a

darker hue, and, increasing in extent, in the course of from four to eight days reaches the lips, nose, and surrounding parts. Portions of it become soft and acquire a gray or greenish hue, and present all the characters of humid gangrene; while other parts are completely mummified, hard, and of a deep black colour. An examination of the mouth now will exhibit a destruction of the gums, opposite to where the gangrene in the cheek had commenced, the teeth being here loose, while the residue of the gums are apparently entirely unaffected. When the gangrene of the mouth has arrived at its highest pitch, no difference whatever is discoverable between the present and preceding species of the disease, the whole of the mouth and its parietes being equally affected in both. In the progress of the disease, the general functions of the system become more and more affected; the appetite is entirely destroyed; the thirst augments; the symptoms of gastric disorder augment in intensity; the diarrhœa becomes more copious, and the abdomen is distended with gas; the debility of the patient rapidly increases, while the intellectual functions remain unaffected even to the last. The fever assumes finally a nervous character; the little sufferer falls into a soperose condition; symptoms of universal colliquation now manifest themselves, and death occurs.

3. *The Metastastic Water-Canker.*—This, according to Dr. R. is, next to the scorbutic, the species of the most frequent occurrence. In general it succeeds to acute diseases of the skin, as small-pox, measles, scarlatina, &c., when these have not run regularly through their several stages, or have been suddenly arrested during their evolution. The disease usually commences abruptly, without being preceded by any peculiar symptoms from which its occurrence can be anticipated. In all cases, however, the patient is affected with more or less debility, resulting from the preceding disease. It is in the soft parts surrounding the mouth that the gangrene commences. A hard indolent tumour, deeply seated, and about the size of an almond, is first perceived, with a slight degree of redness of the skin by which it is covered. Within two or three days the tumour augments in size, and the skin becomes of a deeper red. The inner surface of the cheek now assumes a gangrenous appearance, while an extremely offensive odour is exhaled from the mouth. There are exacerbations of fever towards evening; the appetite of the patient is, however, but little affected. The external circumscribed redness of the cheek soon fades, assuming first a livid, then a grayish hue, surrounded by a red areola, which extends itself as the disease progresses. The central sphacelated portion becomes often completely black within a few hours. It will now in general be found, that the gums, in the immediate neighbourhood of the spot where the gangrene commenced, are in a state of sphacelus; the teeth here soon become loose, and finally fall out. Death, in this species of the disease, usually occurs at an early period, consequently necrosis of the maxillary bones is rarely observed. As the local affection progresses, the general powers of the system sink, a colliquative condition presents itself, and the patient expires without exhibiting any symptoms of a nervous character.

Dr. Richter has observed a much milder species of the disease occurring after an attack of measles that had run an irregular course. Gangrenous patches varying in size, of a dark brown colour, and surrounded with a red areola, occurred upon the lips near their angles, as well as upon the cheeks, while the general system of the child remained apparently unaffected. The gangrenous patches were preceded, for about two days, by a redness of the parts in which they occurred. They appeared to be entirely confined to the skin, for after the sloughs separated there was but little loss of substance. Suppuration of a favourable character immediately commenced, followed by granulation and cicatrization. At the right angle of the mouth, the whole thickness of the lip was, however, affected with gangrene, but the small opening which resulted

from the separation of the slough, nevertheless quickly closed, the loss of substance being supplied by abundant granulations.

Much obscurity exists in relation to the real character of the gangrenous affection under consideration, as well as to the cause of its rapid progress and very great mortality. The numerous hypotheses which have been advanced, by the German writers especially, in relation to these important points, are briefly examined by Dr. R., and rejected as unsatisfactory. Drs. Klaatsch and Hesse have attempted to prove that the gangrene affecting the gums and soft parts surrounding the mouths of children, is to be attributed to a decomposition of these textures similar to that which occurs in the softening of the stomach, uterus, and other organs, independent of and altogether unconnected with true gangrene. This opinion is strongly combated by our author, who maintains that the disease is a simple mortification, resulting from a preceding inflammation of the parts in which it occurs, of an asthenic character. All the peculiarities by which the disease is characterized being attributable chiefly to the peculiarities of the infantile organization, debilitated by exposure to unwholesome air, by improper or deficient food, deficient exercise, &c.

Water-canker, according to Dr. R., occurs almost invariably in young children of a very delicate constitution, of a scrofulous diathesis, with soft and flaccid muscles, pale skin, and light hair, and in whom, very generally, the functions of assimilation and nutrition have been depressed from a series of morbific causes.

By a reference to all the observations on record, it will be found, that in no instance has the disease been noticed as occurring in children of a robust and healthy constitution; in every case the health and strength of those affected with it are described as having been previously undermined by the influence of some debilitating cause or causes. The disease is almost exclusively confined to the children of the poorest classes—it is seldom or ever observed in the children of those persons who enjoy the comforts of life, and are able to pay a due degree of attention to the nursing of their offspring.

The causes enumerated, as those favouring the occurrence of gangrene of the mouth, are insufficient or unwholesome aliment, the use of immoderate quantities of cheese, or of fish, bacon, and other salted food; exposure to a damp or impure atmosphere, or to the air of small, low and ill-ventilated apartments; personal and domestic filth; deficient exercise; and various chronic diseases. As the children of poor persons residing upon the borders of the sea, are exposed at one and the same time to many of the above morbific causes, gangrene of the mouth is, consequently, extremely prevalent in various parts of Holland, Sweden, and Great Britain. In the large cities of Europe, as well as of this country, sporadic cases of the disease are met with among the neglected offspring of the poor, who inhabit the filthy and unventilated dwellings situated in the lanes, courts, and alleys of the suburbs—while it occasionally occurs as an endemic in the asylums and hospitals for children.

The age at which gangrene of the mouth most commonly occurs, is between the first and tenth years, but especially between the second and fourth; it has seldom been observed during the period of suckling.

The examinations of the bodies of those patients who have fallen victims to gangrene of the mouth, are too few in number, and have been made with too little accuracy, to furnish any facts calculated to throw light upon the nature of the disease.

Among the most ordinary and fruitful of the remote causes of gangrene of the mouth, Dr. R. enumerates a scorbutic affection occurring during infancy. In Poland, Denmark, Norway, Sweden, England, Scotland, and other countries particularly exposed to a humid state of the atmosphere, and also in situations along the borders of the sea, as well as those liable to occasional inundations, or to a superabundance of moisture from other causes, the scurvy, as is well

known, is a disease of ordinary occurrence; it reigns there as it were epidemically, particularly among such of the inhabitants as live chiefly upon salted provisions, or those of an unwholesome or innutritious quality; and it is in the above countries and situations also, that gangrene of the mouth in children is the most prevalent.

In perhaps a majority of cases, gangrene of the mouth is dependent upon gastric irritation. Most of the causes already enumerated act, no doubt, in its production by disturbing the healthy condition of the digestive and assimilative organs. The apthous ulceration of the mouth in children is invariably, according to Dr. R., the result of a morbid condition of the alimentary canal. When, in infants of a feeble and delicate habit, this ulceration assumes a gangrenous aspect, it constitutes a genuine case of water-canker. Dr. R. enumerates, as another fruitful source of the latter disease, the previous occurrence of febrile affections, especially the exanthematic; an imperfect crisis, or the sudden suppression (metastasis) of the eruption would appear, he remarks, to favour, in an especial manner, the production of gangrene of the mouth.

According to our author, the gangrene of the mouth is but little under the control of any remedial agents we are yet acquainted with. He cites the experience of those physicians who have had an opportunity of studying the disease, in evidence of its very general mortality. By the fifth, or at furthest, the fourteenth day from its invasion, the little patient usually sinks under the state of exhaustion which then suddenly occurs; a circumstance that has excited the surprise of all; the general health of the system being so little impaired that, to those unacquainted with the disease, such a termination would not have been anticipated. We are perfectly aware that when the real character of the disease is misunderstood; when it is overlooked in its first stages, or treated by inert or improper remedies, its termination will, very generally, be fatal; but our own experience has taught us that, when properly treated from its commencement, the progress of the disease may be very readily arrested and the life of the patient preserved.

According to Muys, Lund, Seibert, Klaatsch, and Reimann, they have very generally succeeded in curing the water-canker, when it commenced by a tumour or livid spot in the cheek; and it would appear to Dr. R. that when the disease occurs subsequently to affections of the stomach, it is of a less malignant character than when it succeeds to fever or diseases of the skin in individuals of a scorbutic habit. It is always peculiarly destructive to life when it occurs as an endemic. In the asylums and hospitals for children in Europe, the disease, when it makes its appearance, very generally terminates fatally. In children who are constantly exposed to the influences of those morbific causes by which the disease is ordinarily induced, it is very seldom recovered from.

From the employment of internal remedies but little if any benefit has been found to result. Those which have been the most warmly recommended are the antiscorbutics, and various tonics and purgatives. Boot, the first English writer who has given an account of the disease, prescribes a drink composed of sarsaparilla and other vegetable substances, in great repute during the period at which he wrote, as purifiers of the blood. Van Lil recommends barley-water acidulated with lemon juice. Bruinemann, Bernstein, and Wendt, the sulphuric acid diluted with honey. Meza considered the spirit of cochlearia, combined with honey, &c. to be decidedly efficacious. The chief remedy, however, on which the majority of the writers upon the disease would appear to depend for its removal, is cinchona, alone or combined with other tonics, or with the sulphuric or muriatic acids; while a few declare that they have succeeded in curing the disease by emetics and purgatives. Dr. R. remarks that the antiscorbutics possess, in general, properties of too little activity to render them of any advantage in the disease under consideration. The sulphuric acid by itself or combined with

the bark produces, he remarks, in general, no effect, unless it be received into a healthy stomach and properly digested; while in the scorbutic variety of the disease the muriatic acid is too debilitating. He believes that the phosphoric acid, the juice of the lemon, with beer, Rhenish wine, and sugar, are remedies better adapted to the disease, and agree better with the stomach; they are, nevertheless, to be viewed merely as accessary means, having little influence upon the progress of the gangrene. When, by local applications, however, the extension of the gangrene has been arrested, he considers that, in every form of the complaint, the administration of those preparations of the bark which are most readily digested, as the infusion, the extract prepared without heat, the sulphate of quinia, &c., is indispensable to support the strength of the patient, and to enable his system to sustain the efforts which are necessary for the restoration of the parts that have been destroyed by the disease. At the same time, a light and nutritious diet should also be directed. Emetics and purgatives may, according to our author, be frequently resorted to with benefit in all the species of water-canker; in this opinion, however, we cannot coincide.

A very extensive list is given of the local remedies which have been reported by physicians, as adapted to arrest the progress of the gangrene. Boot, and others, recommend an ointment made by boiling together verdigris, honey, and vinegar, the diseased parts being first washed with a solution of alum in wine. The same ointment is directed by Van de Voorde and Muys, with various combinations. Van de Voorde praises highly a solution in white wine of aristolochia, florentine iris, agrimony, hoarhound, &c., with the addition of myrrh and aloes, as a wash. Boot directs a gargle formed of a decoction of chervel, cinquefoil, myrrh, rose leaves, sage or white vitriol. Savaird, a wash made of a solution of camphor, alum and sugar in alcohol, or a decoction in wine of pomgranate peel, rose leaves and sumach. While inflammation exists, Van Swieten directs as a wash, a solution of muriate of ammonia and nitrate of potash, with an addition of vinegar or lemon juice, and subsequently, the spirit of cochlearia and theriac. Van Lil employed as a gargle, a solution of muriate of ammonia with gum lac, myrrh, spirit of cochlearia and honey of roses. Symmonds directed a wash of port wine and tincture of myrrh; Wendt of an infusion of aromatics with arnica, vinegar and camphorated spirits; Rey, of tincture, and decoction of bark, with camphorated spirits. Pearson employed calcined alum, and a wash of a decoction of bark with sulphate of zinc, tincture of myrrh, lime water and alcohol.

The sulphuric acid either alone or combined with other articles is highly recommended as a local application by Van de Voorde, Van de Weil, Jourdain, Bruinemann, and Courcelles. The application to the diseased parts of diluted muriatic acid, is recommended as a means which, in a number of cases, will arrest the progress of the gangrene, by Poupart, Van Swieten, Stelwagen, Siebert, Bernstein, Richter, Jadelot, Boyer, Isnard-Cévoule, Baron, and others; Klaatsch and Weigand, however, declare that they have employed it without perceiving any good effects whatever to result.

Klaatsch and Reimann have seen the local disease speedily arrested by the application of acetic acid, but Weigand made trial of it without success.

Two cases are reported in which the application of a solution of muriate of soda as recommended by Rey, was found to be perfectly successful.

Thompson relates a case in the fifty-seventh volume, p. 533, of the London Medical and Physical Journal, which was cured by the local application of Peruvian balsam, and the internal use of tonics, with a generous diet of animal food.

The actual cautery was employed by Capdeville, Chopart, Desault, Isnard-Cévoule, and Baron; Lund, however, strongly opposes its use. The lunar caustic is strongly recommended by Guersent, in that form of the disease in which the gangrene commences on the internal surface of the cheek, and others

state that they have found it perfectly successful in all the forms of gangrenous ulceration of the mouth.

By Van de Voorde and Boyer, the spacelated portions of the soft parts are directed to be removed by the knife, and Jourdain, Berthe, Acrel, and Stelwagen advise the whole of the gangrenous parts to be removed, by incisions performed beyond the point to which the disease has extended, and then the edges of the wound to be united by the hair lip suture.

Having completed an examination of all the remedies that have been proposed for the cure of the gangrenous ulceration of the mouths of children, and after weighing carefully the evidence adduced in support of their respective merits, Dr. R. comes to the conclusion, that the most dependence is to be placed upon local applications; of these, he gives a decided preference to the muriatic, sulphuric, and acetic acids, and the muriate of soda. Dr. Heuter, who has written an essay upon the disease subsquently to the one before us, considers that the local remedies most to be depended upon are the acetic and muriatic acids used in conjunction, and Guersent, a still later writer on this affection, pronounces a mixture of muriatic acid and honey to be the very best local remedy to arrest its progress.

In every case in which the acids are employed, Dr. R. remarks, that to obtain from them beneficial effects, their application must be repeated every half hour, or at furthest every hour. They are to be applied to the affected parts either by a pencil, or by means of pledgits of lint moistened with them. Their use should not be discontinued until the gangrene ceases to spread, and granulations are formed.

Dr. R. is not prepared to recommend the excision of the gangrenous portions of the lip, notwithstanding the testimony adduced in favour of the success of the operation. The actual cautery, however, he considers to be a remedy from which much good may be anticipated, especially when the acids shall be found to fail in arresting the progress of the disease, or when the latter invades the whole of the lips and surrounding soft parts. In such aggravated cases, the application of the cautery should extend to the live parts surrounding those in a state of gangrene, in order that, by exciting in the former an increase of vital action, the progress of the disease may be arrested, and the separation of the sloughs facilitated.

We have thus presented to our readers a brief notice of the monograph of Dr. R. upon a disease which, in consequence of its malignant character, and the little that we at present know in relation to its true pathology and treatment, demands the serious attention of every physician. D. F. C.

ART. XVII. *A Clinical Treatise on the Endemic Fevers of the West Indies, intended as a guide for the young practitioner in those countries.* By W. J. EVANS, Esq., M. R. C. S. London: John Churchill. 1837. 8vo. pp. 309.

The endemic fevers of the West Indies are so closely analogous to, if not identical with, the fevers of the southern part of our own country, that they are much more interesting to us than to Europeans. We regret that, for the knowledge of southern diseases, we are obliged to depend, almost exclusively, upon the writings of Europeans who have passed a comparatively short time in warm climates, instead of relying upon the accounts which our own countrymen should have afforded us.

We like the style and the general spirit of this work; it is obviously based upon facts which have been observed with more than usual care. If it be not complete, its imperfection depends rather upon the insufficient number of the facts, and in some measure, upon the want of extensive observation of other

diseases, than upon any erroneous deductions from the cases which are related. The work is valuable as far as it goes, and must lessen the labour of subsequent inquiries into the fevers of hot climates.

The author observed the West Indian diseases at St. Lucia, one of the most unhealthy of the islands; so that he had both numerous cases to treat during a comparatively short residence, and witnessed diseases of the most severe types. This small island is volcanic, like others in the group; and is intersected by fertile vallies covered with a rich alluvial soil, and is here and there disfigured by morasses or lagoons. The rich vegetation of the tropics is constantly adding vast quantities of vegetable matter to the half putrid deposits already accumulated in the swamps.

The exhalation from the marsh surrounding Castries, the capital of the island, is peculiarly deleterious, and in case the vapour arising from it has been inhaled after nightfall, it sometimes produces an immediate attack of malignant intermittent; even more malignant than that of the celebrated Pontine marshes. This concentrated virulence of the marsh at Castries, was experienced by the author after passing it at night. He was sensible of a disagreeable odour while crossing the swamp, and was soon after taken with nausea, followed by a paroxysm resembling in many respects the ordinary intermittent. The next day the fever returned with the usual symptoms of the disease.

The author draws an obvious distinction between the effects of exposure to the heat of the sun and those arising from the poisonous exhalations of the marshes, perhaps combined with the influence of heat. We have often seen the symptoms following exposure to a hot sun in Philadelphia, and have always found in fatal cases, that patients died with appearances of inflammatory action, or at least congestion of the internal organs; especially the brain and lungs. We were not convinced that this apparent congestion was the cause of the symptoms; on the contrary, we believed that it was a mere effect, and that most frequently the patients died from the influence of heat upon the functions of the nervous system. If the primary effects of heat do not prove fatal, a secondary inflammatory fever supervenes, with evident disturbance of the brain, and but few gastric or intestinal symptoms. Gastric and bilious fevers rarely arise from the rapid effects of insolation or coup de soleil; they seem in most cases to depend upon the slow effects of heat, especially alternating with cool nights; perhaps, in some measure, upon the exhalations of marshes. They are often caused by exposure to a degree of heat which is not sufficient to disturb the circulation of the brain, except in a moderate degree.

At St. Lucia the diseases which occur as endemic affections in the autumn of every year, assume different types according to the constitution of the patient, and the length of time during which he has remained in the island. Thus, while a native will merely experience a mild attack of intermittent fever, or a neuralgia of the intestines, or other parts of the body, an unacclimated European, will suffer from a severe intermittent or remittent. The very dogs introduced into the island, from Europe, in large numbers, are taken with similar remittent and intermittent fevers, and perish, in a larger proportion than human beings.

At the same time that the intermittent fevers are most prevalent, a certain number of cases present the characteristic symptoms of yellow fever; as yellow suffusion, black vomit, and extraordinary violence of gastric symptoms. These cases recur every year, and are confined to unacclimated residents. The author never witnessed the epidemic form of yellow fever, which is regarded as contagious by some writers. He considers the sporadic cases as genuine examples of yellow fever, but declares that not the smallest evidence of contagion was ever presented to him, during his residence at St. Lucia. The question of the contagious property of the epidemic form is not discussed by

Mr. Evans, although it is evident that he leans towards the side of the non-contagionists.

The great questions relating to yellow fever are, therefore, left unresolved, excepting so far as to establish the very close connexion between sporadic yellow fever and some cases of merely aggravated bilious disorders. But we do not possess sufficient documents, collected with care and free from party excitement, to enable us to decide positively as to the connexion of yellow fevers with other similar affections in warm climates.

The author states that within a few years the doctrines of Broussais have found many converts in the West Indies. Many of the English practitioners are more or less under the influence of these views, and without regarding gastritis or gastro-enteritis as the sole pathological element in fevers, they consider these local inflammations as essential parts of the disorder, arising very early in its course, and demanding modifications in the treatment. "The rational treatment" proposed by Mr. Evans is, therefore, such as would meet the approbation of most intelligent practitioners in this part of the United States.

If the endemic fever assume the form of mere febricala or feverishness, the patient should be confined for a day or two to mild farinaceous articles of food, should use tepid baths, take horseback exercise during the cooler parts of the day, and take two or three grains of quinine in the morning. If there be also irritation of the liver, some leeches to the anus, or a few grains of calomel may with propriety be added to this treatment.

The treatment he proposes for the regular intermittent is such as is generally in use—Quinine during the interval, and in the paroxysm, remedies which are calculated to remove the congestion or irritation of particular organs, as a bleeding from the arm, leeches, cups, with a mild emetic and purgative if the functions of the liver be much disordered. The effects of emetics in relieving the affection of the liver, is singularly increased by the use of vegetable acid drinks, as tamarind water or lemonade. The materials for these beverages are found in such profusion in warm climates, that the indication of their use would seem obviously afforded by nature.

The cases of intermittent, in which the disease assumes a malignant form, are, in many cases, connected with a diseased condition of the blood, and require some modifications in the treatment. The author advises many small abstractions of blood from the arm or from the affected parts, especially the head, and speaks of the advantages of external fomentations to the abdomen. In our own practice we have found these cases most certainly relieved of immediate danger during the paroxysm by remedies which act as powerful external stimulants of the nervous system without abstracting blood. We have often seen the apoplectic symptoms of malignant remittent yield speedily to the application of numerous dry cups to the nucha, and between the shoulders, with sinapisms and blisters, when the symptoms were rather aggravated by the abstraction of blood.

The treatment of remittent fever is more difficult, and involves more important consequences to the patient. The author has just and correct opinions on this subject. This object is two fold, to get rid of the inflammation of particular organs, and as soon as an approach to apyrexia occurs, he advises the quinine to be immediately administered. This treatment, which consists chiefly of local depletion, fomentations, &c., combined with quinine in considerable doses as soon as tolerably complete apyrexia could be obtained, is that which was found most successful by the French, during their military occupation in Algiers, where they have had to contend with the most anomalous and severe forms of intermittent fever.

W. W. G.

ART. XVIII. *Die Syphilitischen Krankheitsformen und ihre Heilung. Mit Steter Rücksicht, auf die Beobachtungen und Erfahrungen der neuesten Zeit, dargestellt von* GEORG FREIDERICK HANDSCHUCH, *der Medizin, Chirurgie und Entbindungskunde Doktor. München*, 1831. 8vo. pp. 436.

On the different forms of the Venereal Disease, and their treatment, with especial reference to the results of recent observations and experience. By G. F. HANDSCHUCH, M. D.

In a professed review of Dr. Handschuch's work, we should certainly feel ourselves called upon to contest the correctness of many of the positions he has laid down in reference both to the treatment and pathology of the several forms of the venereal disease; we must, nevertheless, concede to the author the credit of having produced a most interesting treatise, in relation to its literature, origin, character, and therapeutics. Every section of the work is replete with curious and practical information that will be found of value to the student, as well as to the practitioner. Dr. Handschuch has evidently consulted all the best writers, especially those of a recent date, on the subjects of which he treats, and has carefully collated their respective observations and opinions.

He would appear to maintain the specific character of the venereal disease, although not in precisely the same sense as some of the older writers. He denies, however, that mercury is the only remedy to be depended upon for its safe and effectual eradication. A vast accumulation of facts prove indisputably that the disease may be cured, in any of its forms, by many other remedial agents, as well as by the mere restorative energies of the organism aided by a suitable diet and regimen. Mercury, must, however, according to our author, be still continued to be regarded as our principal remedy for the venereal affections, in consequence of its general efficacy, but by no means as the sole and indispensable one, as it was for a long time, and still is by many physicians. It has in fact, he adds, not unfrequently entirely failed in effecting a cure. They who maintain, on the one hand, that the venereal disease can be effectually eradicated from the system only by some one or other of the mercurial preparations, as well as they who, on the other, proscribe these preparations entirely in its treatment, equally err, in the opinion of Dr. H., by running into therapeutical extremes. It is not sufficient to show that a remedy may be dispensed with, without the cure of a given disease being in consequence prevented or retarded, in certain cases—the question is, may it not, in the same disease, under other circumstances, be resorted to with decided benefit? The proscription of mercury from the treatment of venereal complaints, seems to have been, in a great measure, owing to the excess to which it was formerly pushed causing it to produce deleterious effects upon the system scarcely less to be dreaded than those resulting from the disease against which it was supposed to act as a specific.

While we declare that our own convictions and experience are in favour of the non-mercurial treatment of the venereal disease, we would, nevertheless, recommend the work before us to such of our readers as would desire to become familiar with the observations and experience of the most eminent medical writers of Europe, in relation to the several remedies and modes of treatment that have been recommended in the different syphilitic affections.

D. F. C.

ART. XIX. *Transactions of the Medical Society of the State of New York.* Vol. III., Part II. Albany: 1837. 8vo. pp. 310.

Fourteen papers are comprised in the Transactions of the Medical Society of the State of New York, for 1837; of these several are of a highly interesting

character. We have already given separate notices of one or two of them, in preceding numbers of this journal, and we hope to have an early opportunity of noticing a few of the remainder. On the present occasion we have room only to present to our readers an outline of the observations of the late Dr. Avery, of New York, "on the causes of the large proportion of still-born children in our large cities over that of London."

This is certainly a most important subject, and one that demands the attention of every humane and enlightened physician. The number of interments which, in our bills of mortality, are referred annually to the head of still-born children, is of such an appaling extent, as to call loudly for a close investigation into the causes by which it is produced, with the view of ascertaining the means by which these causes may, if possible, be removed. We suspect that in most of our bills of mortality, the term still-born, is employed in a very loose manner; including not only those cases in which the infant dies during the progress of labour, but also cases of premature birth. To arrive at a greater degree of accuracy upon this point, the Philadelphia Board of Health requested, a few years since, that physicians should state in their certificate, when a child is still-born, whether the birth had occurred prematurely or at the full term. This request has, however, been complied with in only a very few instances, consequently we are unable to say what is the actual proportion of infants still-born at the termination of the full period of utero-gestation, and of premature births, to the entire number of deaths which occur in either of our principal cities.

"The material difference," remarks Dr. Avery, "in the proportion of still-born children in our populous towns and those of Great Britain, has deservedly excited considerable interest."—"The only possible mode of obtaining positive information on this subject would be from registers, in which the entry of all the births in different towns or districts, is strictly enforced by law. As no registers, however, of this sort are kept, either in our own cities or those of England, the next most probable source of information are the bills of mortality, but a great variety of circumstances will render the deductions drawn from these more or less inaccurate. For instance, the prevalence of epidemics, the greater or less influx of strangers, the number of children born out of wedlock, &c."

"No satisfactory inference can be drawn from the record of births kept by individuals, or even at Lying-in Hospitals, as they must be more or less confined to particular classes. Thus in neighbouring cities in the same kingdom, with no very great difference of climate or condition of the inhabitants, there is a material difference in the reports of Lying-in Hospitals. It appears from an abstract of the registry of the British Lying-in Hospital for married women, Longacre, London, that since its institution in 1749, there have been born 34,027 children, of which 1369 were still-born, being in the proportion of one in 24.8. During the year 1828, 2122 children were born in the eastern district of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham, London, of which 106 were still-born, being one in 22.8. It appears from an abstract kept at the Lying-in Hospital in Dublin, since it was first opened in 1757, that 114,468 children have been born, of which 6691 were still-born, being one in 17.1."

Referring to the best sources of information within our reach, the bills of mortality, those of London for the ten years ending with 1824, exhibit a proportion of still-born to the entire number of deaths of one in 27.5. By the bills of mortality for the city of New York for fourteen years, ending with 1829, the proportion is one in 17.7: for the first five of these years, it was one in 21.8; for the last five years one in 16.5. By the bills of mortality of Boston, for ten years, ending with 1829, the proportion is one in 13.8; for the first five of these years it was one in 12.3; for the last five, one in 15.6. The bills of mortality of Philadelphia for twenty years, ending with 1826, exhibit a proportion of one in 18.1; it being for the first five of these years, one in 17.7; in the last five, one in 17.4.

"When we consider the number of strangers, particularly foreign emigrants of all ages," Dr. A. remarks, "who annually arrive at New York, Philadelphia, and Boston—the frequent visitations of epidemic diseases, some of which, as dysen-

tery and cholera, never prevail to any great extent in London, at least did not during the years included in the above bill of mortality,—and the probably much smaller number of children born out of wedlock in our cities, owing to the greater ease of providing for a family, and other encouragements to matrimony, all of which circumstances more or less affect the proportion of still-born in the foregoing bills, it can hardly be doubted that a much larger number of children are born dead among us than in London."

In regard to the causes of this greater amount of mortality, Dr. A. denies that it can be attributed either to want of skill in those who act as accoucheurs, or as some have supposed to the abuse of ergot.

"It appears from an abstract of the registry of the Philadelphia Alms-house, from 1797 to 1815, a period of nineteen years, that the proportion of still-born was one in 11; and from a register kept by that excellent accoucheur, the late Dr. Wm. Moore, that in his practice the proportion was one in 12.6; in the British Lying-in Hospital for married women, one in 24.8; in the Royal Maternity Charity, one in 22.8; in Merriman's list of cases, one in 19.7, and in the Dublin Hospital, one in 17.1. Now the mortality at the Philadelphia Alms-house, and in Dr. Moore's practice, cannot possibly be attributed to the want of skill, or to the abuse of ergot. As to Dr. Moore, it is well known that by far the largest portion of his practice, was anterior to the general use of ergot, and I think after he became acquainted with it, he never employed it to any considerable extent."

Hence Dr. Avery is of opinion, that the number of still-born children occurring in our cities, must be referred to some agent or agents acting generally, and not to the want of skill in the medical profession, nor to the abuse of ergot. To ascertain these general agents, he examines first, "what are the *most common causes* of the death of the fœtus in all countries?" and secondly, "whether these causes are influenced by climate, diet, habit, and modes of living?" The most common causes of the death of the fœtus in all countries are, he remarks, "1st. whatever occasions the premature expulsion of the fœtus, and 2nd. whatever hinders its natural delivery at the full time."

"The causes which occasion the premature expulsion of the fœtus, may be divided into accidental and predisposing. The accidental are falls, blows, immoderate efforts of every kind, frights and other mental agitations, &c. These require no examination. The predisposing causes, are undue vascular fulness, great susceptibility of the system to the action of external agents, and probably morbid irritability of the uterus and its appendages."

"It is true, the fœtus may die without any apparent cause, and be expelled in a putrid state; the placenta may be attached over the os uteri, and occasion its destruction, &c., but these constitute but a small portion of premature labours, and those brought on by hemorrhage and convulsions in the seventh and eighth months principally depend upon plethora and undue irritability, as they are oftenest prevented by blood-letting, anodynes and low diet."

"Now, if it be admitted," remarks Dr. A., "that there is a more rapid circulation of the fluids, a stronger tendency to plethora, and a greater susceptibility of the system to the action of different agents during utero-gestation, than in the unimpregnated state, and if it can be made appear that our climite, diet, habits and modes of life, undoubtedly increase this condition of the system, more than those of England, will it not be a reasonable conclusion, that the fœtus will be prematurely expelled oftener here than in England?"

This Dr. A. attempts to prove—in England, he observes, although the weather is variable, still the changes are not comparatively great, and the coolness and moisture of the atmosphere appear to elicit the blood to the surface, and keep up a free circulation in the dermoid vessels, which probably has considerable effect in preventing an undue elevation of the sensibilities of the internal structures. The climate of the United States, on the other hand, though not so variable as that of England, is marked by variations of heat and cold much more sudden and extensive, particularly in the northern and eastern states. For weeks together our sky is serene and almost cloudless, our atmosphere dry, and warm and cold weather follow each other with great regularity through the

different seasons. But the heat of summer vies with that of the tropics, and the cold of winter approximates in intensity to that of the poles; our bodies relaxed and debilitated by the extreme heat of one season, are ill prepared to sustain the severe cold of the other, and when in some measure habituated to the latter, must suffer more or less from the effects of the former. As a people, the Americans are paler and less robust in appearance than the English; our females are scarcely mothers when the rose entirely fades from their cheeks; their forms are altogether more delicate, and they grow old at a much earlier period than those of Great Britain.

"Diseases depending upon congestion in the abdominal viscera, morbid irritability of the mucous surfaces, hepatic derangements and fevers, characterized by bilious symptoms, are much more frequent in America."

"In ten years ending in 1829, there were reported by the City Inspector of New York, out of a population of about 200,000, 1522 deaths from dysentery, 700 from diarrhœa, and 224 from cholera morbus, making in all 2446."

"In London, with a population of between a million and a million and a half, for ten years ending in 1824, the bills of mortality contain less than 100 deaths from all three of the above diseases."

The great prevalence of bowel complaints would not appear, however, as some have supposed, to augment the number of abortions and premature births. From the bills of mortality of the city of New York, from 1819 to 1828, inclusive, it will be seen that there is no material difference between the number of still-born children in the months in which bowel complaints are most prevalent, than those in which they are least so—thus the months of July, August and September, of the above years, gave 200, 179 and 168 still-births respectively, total 547; while the months of December, January, and February, gave 138, 187 and 182 respectively, total 567.

In speaking of the difference of climate between this country and England, Dr. H. remarks, that in the latter, during winter, the temperature may fall for a short period below 10°; but it is uncommon for it to remain any considerable number of days much below the freezing point. So in summer, it may rise to 85°, but rarely remains long above 70°. During the warmest days, the moisture of the atmosphere and the winds, occasioned by the proximity of the sea, render the nights almost always cool. In London, the mean temperature of July 1821, was 59° 80′; of July 1822, 61° 91′; of January 1821, it was 37° 67′; of January 1822, 38° 70′. In New York, the mean of July 1829, was 73°; of July 1830, 80°; of January 1829, it was 28°; and of January 1830, 26°. According to Dr. Clarke, the mean temperature of the winter months in London is 39°; and of the summer months, 62° 32′. The mean temperature of the winter months in New York, according to a report made to the Medical Society, was in 1829, 34°; in 1830, 35°; of the summer months in 1829, 74° 5′; in 1830, 76°. The mean temperature in Philadelphia of the winter months from March 1811, to February 1830, was, according to Dr. Emerson, 32° 5′; and of the summer months 74°. From a table given by Dr. Avery, it appears that in 13 years ending with 1824, the mercury in London rose but twice above 86°, and fell but twice below 10°. While from a table kept in New York, it appears that in 8 years ending with 1828, the mercury fell in every year but the last below 10°; and in one, 5° below 0, the lowest fall being taken at 8 A. M.; while within the same period the mercury rose every year excepting one above 90°; the highest rise being taken at 3 P. M. According to Dr. Emerson's observations, the thermometer, in a period of 10 years, fell one year to zero; in four years below 10°; in one year to 10°, and in the remaining four years to 11°, 12°, 17° and 18° respectively.

If it be proved that the irritability of the system and tendency to plethora are greater during utero-gestation than in the unimpregnated state, and that our climate has a tendency to augment still more this irritability, and to encourage

the disposition to plethora so as to cause premature labour or abortion, we can readily understand one of the causes producing a greater proportion of still-births in this country than in England.

"In all large cities, refinement, luxury, idleness, the irregularities of a life of gaiety and dissipation, the influence of passions and emotions of the mind, highly stimulating food and drinks, improper dress, and a thousand other circumstances, not to mention the effects of bad air, may be set down as causes calculated to impair the healthy performance of the various functions of the body, to render it morbidly irritable and occasion an unequal distribution of the circulating fluids to the different organs; of course the number of still-born children must always be greater in cities than in the country."

In a report of 1200 cases of labour by Dr. Arnell, of Goshen, N. Y., there were only 23 still-born, or one in 52, while in Dr. Moore's list there was one in 12.6.

The habits and modes of living as well as the diet of our females, differ considerably from those of the English. The American female, instead of taking that amount of daily exercise in the open air, to which the married ladies of England are accustomed, pass the greater part of their time within doors in sedentary occupations: "consequently their system becomes preternaturally sensitive, and a tendency to plethora and mucous irritability is increased."

In regard to diet—"Pleasantness and simplicity," we are told, "are the characteristics of an English table, while profusion and endless variety are in some measure peculiar to America. Animal food is generally eaten here for breakfast and dinner, in England for dinner only; and puddings, pies and sweetmeats, these indubitable marks of good housewifery among us, are far less common in England."

In those who lead indolent lives and who feed luxuriously—more blood will be made than can advantageously be employed, consequently there will be "not only plethora, but augmented irritability, and, therefore, a liability on the part of the (gravid) uterus to be thrown into contraction by smaller causes than ordinary." (Dewees.) And Dr. A. conceives this effect of a sedentary and luxurious mode of life to be more liable to occur here than in England, in consequence of the greater warmth of our climate.

In regard to dress, Dr. A. remarks, that with our females more attention is paid to appearances, while the English female pays greater regard to comfort. This is more especially evinced in the greater care taken by the latter to keep the feet and lower extremities warm by suitable clothing. It is unnecessary, Dr. A. conceives, to enlarge upon the subject of the immediate sympathy existing between the feet and legs and the uterine system, and the effects of exposure of the lower extremities to cold and moisture, more especially in those who are enervated by their habits of life.

The baneful influence upon health of the tight-laced corset, which fashion here prescribes to every female almost from infancy, is well understood by physicians; and when its use is continued during pregnancy, even sometimes up to the period of confinement, no one will object to include it among the causes of abortion and premature delivery; and a very little reflection will convince every one acquainted with the structure and physiology of the human frame, that it is also a frequent cause of difficulty even when labour occurs at the full period.

"Another point worthy of notice is, the premature introduction of our females into society—a step which is much earlier taken here than in England."

About the period of puberty in females, a great variety of causes, which at a somewhat earlier or later period would be comparatively harmless, are liable to produce very serious consequences. "The formation of the constitution which is now going on, may be easily interrupted—the passions are unduly excited—the natural sensitiveness of the system morbidly increased; and the whole frame materially enervated." The passions and imaginations being prematurely called forth by a too early intercourse in mixed society, must have a powerful influence upon the uterine system, and consequently, upon the sys-

tem generally." We need hardly notice the deleterious effects upon the young female of late hours, crowded and overheated rooms, exposure to the night air, &c.

"One of the consequences of premature introduction into society is very early marriages, which are much more common occurrences here than in England."—"Becoming a mother before the constitution is fairly formed, prevents many females from arriving at the maximum of strength, and occasions premature old age."

"If the view which has been taken of this subject be correct, it must be evident,

"First. That the standard of female health is lower in our large towns than in London, and that the difference is occasioned by the combined effects of climate, diet, habits, and modes of living, &c.

"Second. That as the delicate female is much more liable to miscarry than the robust, the premature expulsion of the fœtus must oftener occur in this country than in England."

The causes which commonly prevent the natural delivery of the fœtus at the full period, Dr. A. believes we have no good reason for considering as of more frequent occurrence in this country than in England. Indeed, it is more than probable that one of them at least—distortion of the pelvis—is much more common in England, especially in the manufacturing towns.

"The inference which may be drawn from the foregoing remarks are, first, that the larger proportion of still-born in our cities than in London, is not at all dependent upon accidental circumstances, but upon a combination of causes which lower the standard of female health, and occasion the more frequent premature expulsion of the fœtus. Second, that the means of preventing this mortality must be found in an entire change in the habits of our females, from their infancy till they cease bearing children,—in instituting greater simplicity of diet, more proper clothing, more regular exercise in the open air, and in avoiding the causes of undue mental excitement, such as too early introduction to society, &c."

We have been led to notice the paper of Dr. Avery somewhat at length, as well from the importance of the subject upon which it treats, as from the many interesting observations it comprises. Whether the author has arrived at a correct estimate of the more efficient causes of the large proportion of still-born children exhibited by the bills of mortality of our large cities, will admit of some doubt. Unquestionably all the circumstances which he details have a deleterious influence upon the female constitution, and render her liable to abortion and premature labour; but we do not believe that the major part of the still-born cases annually reported are premature births. We do know that in Philadelphia a very considerable number of infants are still-born at the full period. To what cause this is to be attributed we pretend not to determine; facts that have fallen under our notice convince us, however, that in too many instances the destruction of the infant is to be attributed to the abuse of ergot, or to the want of skill in the accoucheur. We are persuaded that in not a few instances, where the death of the child has occurred during a protracted labour, caused by an unusually large size and firm ossification of the head, it might easily have been delivered alive by instruments, and the mother at the same time saved from many hours of intense suffering and anxiety. Until we have, however, more correct and satisfactory statistics in regard to the still-born cases which occur amongst us, no very certain conclusions can be arrived at in regard to their causes or prevention. D. F. C.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

SPECIAL ANATOMY.

1. *Thymus Gland.*—M. KRAUSE asserts that the generally received opinion relative to the diminution and total disappearance of the thymus gland after the age of 12 years, is by no means confirmed by observation; for in nearly all the individuals of from 20 to 30 years old whom he examined, he found it well developed, and often larger than in young children. In persons of from 30 to 50, he has seen it of considerable size, and he has observed reddish-brown remains of it in others, even above the latter age. In young persons it generally retains its bilobate form, but its diminution seems to take place at its middle part, so that sometimes its upper and lower horns are connected by cellular tissue only. He has never observed any relation in the altering sizes of the renal capsules and thymus gland. The average weight of the latter in persons of between 20 and 30 seem to be 274½ grains, and in well grown mature fœtus, 190 grains, but often much less; in one that died of thymic asthma it was 440 grains.—*Müller's Archives.*

2. *Minute Structure of the Teeth.*—FRŒNKEL in a dissertation prepared under the direction of PURKINJE, has given some important conclusions on this subject. The osseous substance of the teeth he says, has no similarity in structure to bone, except on the outer surface of the root, where there is a layer of true osseous substance; and this Müller himself has confirmed. The peculiar substance of the teeth (as observed in very thinly cut slices) consists of numerous closely-arranged parallel fibres, running more or less obliquely, or straight from within outwards, seldom branched, but united by an amorphous intersubstance, constituting the greater part of the tooth, the interspaces being five or six times broader than the fibres. These fibres, which both Purkinje and Müller have decided to be tubular, are, according to the latter, filled (at least in part) with earthy matter—salts of lime; it is they which give the opaque white colour to the sections of teeth, the interspaces being more transparent. On being treated with acids, and by examinations of carious teeth, it was further proved that the walls of these tubular fibres themselves are rendered firm and brittle by being permeated by earthy matter. The more transparent interspaces also contain earthy matter, either in scattered particles or chemically combined, as may be demonstrated by boiling sections in potash ley, when the animal matter being destroyed, they become opaque, white, and extremely brittle, and present numerous minute calcareous corpuscles.

The enamel is composed of simple vertical fibres, somewhat thicker above than below, of a quadrangular prismatic form, flexuous, and connected by transverse lamellæ; these prisms are usually placed obliquely on the surface of the dental substance. Müller, besides confirming this, has found that the enamel of the calf's tooth, while still soft, already consists of these prismatic fibres, connected

only by a transparent fluid material. All these observations have been confirmed by Retzius, so that they may now be looked upon as deciding this interesting point of structural anatomy.—*London Med. Gaz., May* 1837, *from Müller's Archiv. for* 1836.

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3. *Origin of the optic nerve.*—The result of a very lengthened consideration of the origin of the optic nerve in man and animals, by Stein, (De Thalamo Optico et Origine Nervi Op. Hevniæ, 1834,) is, that in the former it is derived from the white fibres forming the upper covering of the optic thalamus, from some others coming from where the peduncles of the pineal gland are connected with the posterior commissure; from another fasciculus coming from the anterior, and a fourth from the posterior of the corpora quadrigemina. From the two latter is derived a minute bundle, which is lost in the crus cerebri, without being connected with the nerve. The commissure of the nerves is also connected with the grey lamina, which, covering the inner surface of the thalami, is connected with the tuber cinereum, and ascends between the anterior crura of the fornix and anterior commissure.—*Ibid.*

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4. *Laryngeal and hypoglossal nerves.*—C. E. Bach confirms the idea of the descendens hypoglossi belonging rather to the cervical nerves than to the hypoglossal. The results of some dissections of the laryngeal nerves, which appear to have been made with the greatest care, are, that the laryngeal muscles are thus supplied. The crico-thyroideus always receives branches from the superior, rarely from the inferior; the inferior supplies the crico-arytenoideus posticus; the thyro-arytenoideus is supplied by the inferior, and sometimes by the superior; the crico-arytenoideus lateralis by both; the crico-thyroideus by the superior, and rarely by the inferior. These observations are very important as disproving the theories of Magendie respecting the voice; this physiologist supposing that the superior nerves supplied the muscles which narrowed, and the inferior those which widened the glottis.—*Ibid.*

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5. *Structure of the intestinal glands.*—The patches at the end of the ileum, which have been long known under the name of Peyerian glands, are shown by Böhm to consist of small capsules, lying in the submucous tissue, containing in a simple, not cellular cavity, a white, milky, rather thick fluid, with numerous roundish corpuscles of various size, but mostly smaller than blood globules. Round this capsule, which has apparently no excretory duct, there is a circle of minute tubules in the mucous membrane which open on its surface. The typhoid affection seems to consist of an exudation of a peculiar matter around the capsules, after which they pass into a state of suppuration, and form so many minute ulcers, which afterwards become confluent.

The Lieberkuhnian glands are simple follicles,—the white points at the bottom described by their discoverer being probably only morbid secretion.

The Brunnerian glands, found by Böhn only in the duodenum, present a single excretory duct, leading to lobules, which are again subdivided, forming true conglomerate glands. The so-named glandulæ solitariæ, occurring throughout the small intestine, and especially at its end, consist of capsules, containing the same corpuscles as the Peyerian glands, from which they differ in their isolated arrangement and the absence of the circle of tubes.

In the large intestine also he describes two kinds of glands: the smaller, found especially in the rectum, constitute simple tubules of various length, which is greatest in the rectum, where they form a particular layer outside the mucous membrane; the larger are round follicles with narrow openings, and are found principally in the cæcum and processus vermiformis.—*Ibid.*

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6. *Meibomian glands.*—Zeis has shown that these lie, not between the conjunctiva and tarsus, but in the substance of the tarsal cartilage itself,—the only instance where such an arrangement is found in a fibro-cartilage, to which tissue Miescher has shown that these belong.—*Ibid.*

GENERAL ANATOMY AND PHYSIOLOGY.

7. *Artificial Digestion.*—In our No. for May last, p. 196, we noticed the interesting experiments of Schwann, concerning the nature and constitution of the artificial digestive fluid discovered by Eberle, in 1834. Dr. Tweedy John Todd, with the assistance of Mr. Schweitzer, has provided himself with a supply of artificial digestive fluids, prepared after the method of Schwann, from the mucous membrane of the stomach of several animals, and has recently been making some researches to ascertain the nature of their peculiar action upon various alimentary substances.

The digestive fluids upon which Dr. Todd has operated were prepared from the stomachs of the ox, the horse, the dog, and the cat. Some, also, prepared from the upper portion of the small intestines was found not less powerful. The presence of the acid is essentially necessary in the preparation; when Mr. Schweitzer endeavoured to procure the digestive fluid with distilled water alone, or when he treated the mucous membrane in the same way by a weak alkaline solution, a rapid putrefaction stopped all further proceeding.

Various vegetable and animal substances were submitted to the action of these digestive fluids, at the ordinary temperature of the atmosphere, and the constant result in all the instances has been that *all these substances have been resolved into their elementary organic globules.* There has been no exception to this, so far as the experiments have extended, and these include, amongst vegetable substances, the artificial digestion of boiled cauliflower, of bread, and of vermicelli, not dressed; and, amongst animal substances, the white of egg boiled, the coagulum of blood, butter, fat, the muscular fibre of mutton, and of fish boiled and raw, filaments of the sciatic nerve raw, and scrapings of bone. The products of these artificial digestions, especially of the vegetable substances, compared with chyme taken from a dog which had been feeding upon ground oats, were very much alike, except that the watery part had been removed from the chyme. It is therefore reasonable to conclude, that the process of artificial digestion is essentially the same with the process of natural digestion in its first stage, that alimentary substances are not reduced to their chemical, but resolved into their organic elements; so that the globules, observed by physiologists in the stomach, are not formed by the process of digestion, but are the globules existing in the alimentary substances, developed or disengaged by that process.

The experiments, as yet, are not sufficiently extensive to admit of any comparative results, as regards the different power of digestive fluids prepared from different animals, and their relation to different kinds of alimentary substances. Much remains to be done in this and in many other respects; but especially in determining the different nature of alimentary globules produced from different organic substances. To this object Dr. T. is at present directing his researches; and, at the same time, making a useful application of this power of artificial digestive fluids, by endeavouring to ascertain the elementary organic constitution of various morbid heterologous structures; such as tubercles, &c.—*British Annals of Medicine*, June 9, 1837.

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8. *A comparative examination of the Liquor Amnii in different periods of Fœtal life.* By Dr. C. Vogt of Berne.—Examination of the liquor amnios in two fœtuses of three and a half and six months, gives the following results:—

	3½ months.	6 months.
Water	979·45	990·29
Alcoholic extract, consisting of an unknown animal substance and lactate of soda	3·69	0·34
Chloride of sodium	5·95	2·40
Albumen determined as residue	10·77	6·67
By boiling 9·45		
Sulphate and phosphate of lime and lost	0·14	0·30
	1000·00	1000·00
Specific weight	1·0182	1·0092

The first fluid thus is in all its proportions far more concentrated than the other. Whether this has something to do with the developement of the fœtus can

only be decided by multiplied analyses. It must be added that the first amnios was taken from a woman who died of inflammation, where all fluids are more plastic than in the normal state, and the other from a cachectic individual where the contrary state occurs. The last analysis of Frommherz, which is to be found in Berzelius's Animal Chemistry, differs from the analysis of Vogt; a difference which the latter explains by decomposition beginning, and the admixture of urine in the materials of the former's analysis.—*Ibid.* Ap. 1837.

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9. *Composition of elastic tissue.* It was long esteemed remarkable that the elastic tissue should form an exception to the general character of the lower, least important, and least organized tissues, in not affording gelatine on boiling—by prolonged boiling. Eulenberg has now obtained it from all, even the middle coat of arteries. Schwann describes its physical characters: it consists of fibres of very different thicknesses, branched, and possessing sharp edges. It occurs not only in the situations where it has been usually described, but also in the bronchi and œsophagus, beneath the mucous membrane, in the lig. suspens. penis, in the fibrous bundles of the corpus cavernosum, &c. Even the outer and inner coats of arteries and veins contain a few fibres; in the large veins of oxen a thin middle coat of it is discoverable, but in man it cannot be certainly determined.—*Lond. Med. Gaz.*, May 1837, from *Müller's Archiv.* for 1836.

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10. *Contractility of arteries.*—Schwann has decided the important and problematical question of the contractility of the small arteries, by pouring cold water on the vessels of a frog when they had been previously in a warm atmosphere. They immediately contract, but after a time regain their diameter again. Müller remarks, that in this capability to contract under the influence of cold, but of no other exciting causes, as electricity, &c., the contractile tissue of the arteries resembles that of the dartos, and that which is found in many parts of the skin, as about the nipples and follicles, though the physical characters of the latter are so different from elastic tissue. [Is it not probable that the part of the artery which contracts under this excitement is (as we think Weber suggests in his General Anatomy prefixed to Hildebrant) the outer coat, which in its long silky filaments much resembles the dartos?] Schwann has also discovered that the capillaries have an elastic coat, with circularly running fibres, exactly like the arteries.—*Ibid.*

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11. *Extra Uterine Fœtation.*—Drejir describes a case where the fœtus was developed in the right fallopian tube, which burst at the fifth month. On examination a corpus luteum was found in the left ovary, but none in the right. How the ovum could have passed from the left tube across the uterus into the right, remains a question. The connexion of the latter with the uterus was abnormal, joining it at the union of the body and the neck.—*Ibid.*

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12. *Observations on Weber's experiment on the power by which the head of the thigh bone is retained in the acetabulum.*—A full account of Weber's experiment was given in a preceding No. of this Journal, (Feb. 1837, p. 483.) Dr. Lauer has repeated the experiment under the direction of Dr. Fricke, with nearly the same results, but thinks that the conclusions drawn from it by Weber are deficient in proof, and of much too general a nature.

The force exerted by atmospheric pressure on the head of the thigh bone, is equivalent to the weight of a column of air the base of which is equal to the superficial area of the head of the bone, or to the weight of a column of mercury of the same base and of a height equal to that of the column of an ordinary barometer. Supposing now that the superficial area of that part of the head of the bone which is covered with cartilage is from five to seven inches square,* and fixing the average height of the column of a barometer at 28.409 Vienna inches, and taking the weight of a column of mercury of the given height and a quarter of an inch in diameter, at 12.6 pounds, we find the force with which the pressure of the atmosphere acts on the head of the bone, to be equal to from 63 to 88.2 pounds. Now admitting that the head of the thigh bone is retained in the acetabulum by

* The superfices of the largest head examined by Dr. Lauer was 6¼ square inches.

no other means, it would require a power equal to this weight, and acting in the direction of the neck of the bone, to separate the head of the thigh bone from the acetabulum, which, plainly, is not the case.

How different is a relaxed dead muscle from a living contractile one! How different at least with respect to sensation! Leaving out of view the proper contractile power of the latter, its mere vital tone, a property which the former does not possess, must contribute to this object. When a temporary contraction of the muscles of the hip-joint, whether effected through the agency of the will or by other causes, produces a transient or permanent shortening of the limb, and, *vice versâ*, a relaxation of these muscles is followed by its elongation—facts first pointed out to me by Dr. Fricke, and of which I have daily opportunities of convincing myself—are we not justified in assuming, that muscles in the normal condition, even when at rest, are, by means of their vital tonicity alone, capable of at least contributing to retain the head of the thigh bone in the acetabulum? In making these observations I am far from denying the influence of atmospheric pressure in effecting the same object. Can the shortening of the limb which occurs in the first stage of coxarthrocace, before the head of the bone has undergone any change of form or situation, and which admits of being demonstrated by the measuring rule, be explained by a supposed partial increase of atmospheric pressure? Can the shortening of the lower extremity produced by contusion of the muscles of the hip-joint, and removed by the application of leeches or cupping glasses, be accounted for by variations in the pressure of the atmosphere? Are we to attribute to the same cause the elongation of the thigh observed in that form of disease to which Dr. Fricke has applied the term coxalgia? In the former cases, however, the muscles are found to be evidently tenser and harder to the touch, in the latter, laxer and softer.

Weber's experiment has proved that atmospheric pressure is in itself sufficient to prevent the sinking of the head of the bone out of the acetabulum, when the limb hangs at rest; but would it, even were its power much more considerable, prevent the head of the bone from slipping out in violent motions, as for instance, in forcible divarication of the lower extremities, which some men can perform to such a degree without consequent luxation, that the outstretched axes of the lower extremities fall in a straight line and form an angle open superiorly? Here the muscles must certainly co-operate in a very remarkable manner, sometimes one portion, sometimes another, acting more powerfully according to the necessities of the case.

It is well known that travellers on very lofty mountains suffer many and obvious inconveniences from the diminution of atmospheric pressure, but I do not recollect that relaxation of the coxo-femoral articulation has been classed among them. It is true, a sense of fatigue has been very frequently noticed, but this in general is speedily removed by a short repose, and can scarcely be attributed to any peculiar relaxation of the hip-joint. Yet Saussure's barometer did not stand higher than sixteen Paris inches on the summit of Mont Blanc, and on Chimborazo, at a height of 6004 meters, Boussingault's stood no higher than 13 inches 8½ lines.

As to the ligaments, they are, with reference to this connexion, of much less importance. Still, in our experiments, we found that after boring through the acetabulum, not more than two thirds of the head of the thigh bone descended from the socket, as long as the capsular ligament remained entire; but when this was divided, the ligamentum teres opposed no further obstacle to the descent of the head of the bone, only, however, when this was effected by the weight of the limb itself, or (when the body lay horizontally) by traction acting downwards and pretty much in the direction of the axis of the acetabulum. But, if we attempt to make the head of the bone slip out of its cavity by forcible abduction, as occurs in cases of luxation from violence, the ligamentum teres certainly offers some opposition, and a complete removal of the head of the bone from the socket is effected only by employing a force capable of rupturing the round ligament.

If we turn to the use which Weber has made of his discovery in explaining spontaneous dislocation, we learn from him in the next place, that, occasionally, in men otherwise healthy, the head of the bone suddenly sinks out of the acetabulum. As far as I can recollect, no observation of this kind has been hitherto made. He says further, "Since the head of the bone is not, as far as we have seen, retained in the acetabulum by the power of the ligaments, we should not, in

attempting to explain the origin of this affection, assume that the ligaments must be elongated or generally changed, before the head of the bone can quit the acetabulum. We have seen that this has occurred when air has got into the cavity of the joint above the head of the bone. But it is not necessary that the substance which gets in should be air. It may be a fluid secreted into the joint by the blood-vessels or it may be a solid substance growing within it. In proportion to the increase of the fluid or other substance formed there, the head of the bone sinks by its own gravity, without being necessarily forced down, and without any resistance being offered on the part of the ligaments."

It is certainly true, that the head of the thigh bone may sink to a certain extent out of the acetabulum without any preceding change in the ligaments; but before this happens completely, and in such a manner as to give rise to actual spontaneous luxation, they must certainly have suffered some alteration. It likewise cannot be denied, that a fluid situated in the cavity of the acetabulum above the head of the bone, or a solid substance formed in the same situation, may give rise to a dislocation of the same kind; but abstractedly from that point, that this occurs only in the rarest cases of spontaneous luxation, the bone does not sink out of the acetabulum during this process by its own weight, but is actually forced out. It is true that a few drachms of fluid are not sufficient to overcome the force of atmospheric pressure; but a fluid of this description is incompressible, and where it is, the head of the bone cannot be, and even the greatest degree of force capable of being exercised by the muscles is insufficient to retain it in the cavity. Weber himself says the same thing in an indirect way, and therefore involves himself in a contradiction; for he says, "the sinking of the head of the bone is in proportion to the increase in the quantity of the fluid." This case is of course quite different with air which has forced its way through a hole in the acetabulum; for this is in connexion with the whole atmosphere, and therefore presses the head of the bone downwards with the same power as it presses upwards by the operation of the same medium, so that the limb can now obey the impulse of its own gravity.

The experiments in question, according to my opinion, afford the following anatomical, physiological, and pathological results:

1. The head of the thigh bone completely fills the acetabulum, and the opposed surfaces are adapted to each other.

2. The pressure of the surrounding atmosphere is to be classed among the means by which the lower extremity is kept in apposition with the trunk of the body.

3. A spontaneous sinking of the head of the thigh bone out of the acetabulum may occur under certain circumstances without any preceding change in the ligaments.—*B. & F. Med. Rev.* July, 1837, from *Zeitschrift fur die Gesammte Medicin.* B. II. H. III.

PATHOLOGICAL ANATOMY AND GENERAL PATHOLOGY.

13. *Microscopic crystals in the alvine evacuations of persons labouring under typhoid fevers.*—In our No. for May last we noticed the discovery by Dr. Schœnlein of microscopic crystals in the alvine evacuations of persons labouring under abdominal typhus, and also the observations of Prof. Müller on the same subject. Subsequent investigations by M. Gluge, furnish the following results.

The stercoraceous crystals exist in a healthy as well as in a morbid state. The fæces of persons in health, examined immediately after expulsion, present a number of very minute, but distinct, and sometimes perfectly transparent crystals. Their diameter is much less than in typhoid fever. To see them, a magnifying power of 250 diameters is required, *their length only varying de ¼ centième de millimètre.* They are grouped together in large numbers, and their form of crystallization is very various. It is premature to form any theory about these facts.

The matter contained in the lower end of the intestinal canal of a living frog, when submitted to the microscope, is found to be full of crystals, while that in the upper portion contains none; yet in twenty-four hours, or in less time, after its death, crystals are found through the whole extent of the digestive canal. The bile has probably a good deal to do with the formation of these crystals. After

death that fluid usually contains crystals in great numbers; it also contains very regular filaments, which unite in great numbers, so as to form small bands, which are always found unaltered in the alvine dejections.—*Gazette Médical de Paris.*

14. *Spontaneous Rupture of the Heart.*—Dr. Mayer relates in his *Med. Pract. Abhand.*, the following interesting example of this rare accident. As a peasant was employed with several labourers in landing timber from a raft, a rope broke, and one of the beams fell back with such violence on the float, that the peasant, without being touched by the beam, fell from the shock into the water, and although he was taken out immediately, expired after a few gasps.—*Autopsy.* The cavity of the chest contained at least five pounds of dark fluid blood, which had gushed from a rent in the pericardium, near the point where the aoria escapes. The pericardium was distended with a similar fluid. On closer examination, complete rupture of the heart was discovered, dividing it into halves, a right upper and smaller, and a left, inferior, and larger half, only connected by an isthmus an inch in diameter. The substance of the heart, with the exception of a slight thinning of the walls of the right ventricle, was perfectly healthy, and not a trace of aneurismatic enlargement was discovered in the vessels.—*B. Ann. Med.* from Kleinert's *Report*, Dec. 1836.

15. *On the nature of Mucus, and discharges from the Urino-genital organs.*—M. Al. Donné has lately published an account of some interesting microscopic researches as to the nature of mucus and the different discharges from the urino-genital organs. He has been led by them to the following conclusions:—

1. The pus of urethral gonorrhœa appears to be the same both in men and in women; it is alkaline, and presents the appearances of common phlegmonous pus. It contains no animalcules.

2. The pus from chancres of the glans and of the vulva is alkaline. Its globules are less clear than those of other pus. It is also alone capable of producing true pustules and chancre by inoculation.

3. The sebaceous secretion of the prepuce is alkaline. No animalcules are developed in the pus formed by the application of a blister to the glans of a non-syphilitic patient.

4. The pus of buboes is alkaline, and never contains animalcules.

5. The mucus of the vagina is in its healthy state acid, and composed of pellicles of a peculiar form. It never contains animalcules unless in an unhealthy state.

6. The discharges from the vagina are either simply mucous or are purulent.

7. Mucous discharge constitutes *vaginitis*, or vaginal leucorrhœa. It never contains any animalcules.

8. Purulent discharge constitutes vaginal gonorrhœa: in it are found the new animalcules which M. Donné has described under the name of *Tricomonas vaginalis.*

9. The acidity of the vaginal mucus, and the presence of animalcules in it, perhaps contribute to diseases of the neck of the uterus.

10. Uterine mucus is always alkaline, which distinguishes it from that of the vagina. In its healthy state it is not opaque and presents no globules: in affections of the neck or body of the uterus it becomes muco-purulent, but never produces animalcules.

11. Balsam of copaiba and cubebs, mixed with butter or chocolate, may be administered with advantage in gonorrhœa, in the form of solid cones introduced into the rectum.

MATERIA MEDICA AND GENERAL THERAPEUTICS.

16. *Physiological and Therapeutical properties of pure Tannin.*—M. Cavarra, having previously ascertained by experiments on dogs, that pure tannin possesses no poisonous qualities, took himself three pills, each containing two and a half grains, for three successive days. Obstinate constipation was the consequence, which lasted for eight days, and was only then relieved by the administration of

two drops of croton oil. An exactly similar effect was produced on two other healthy individuals, who took the tannin in the same dose.

It now remained to determine, if possible, in what way tannin produces so powerful an effect on the mucous membrane of the intestinal canal. A dog, in which the maximum of constipation had been attained by giving large doses of tannin, was killed. The intestinal mucous membrane was found to be dry. The fæcal matter was extremely hard, and, as it were, adherent to the sides of the colon. On examining the surface of the mucous membrane of that organ with a strong magnifier, the villosities and their pores were found considerably contracted. From these, and several other experiments, the author concludes, that tannin acts chemically on the intestinal mucous surface, in the same way that it acts on the skin of an animal, and produces constipation by the restriction which it causes in the secreting parts or tissues.

The superiority of pure tannin over such substances as contain it in greater or less quantity, (*nux. gal.*, &c.) is incontestible. Its relative power is much superior, but experience alone could decide whether pure tannin possessed any medicinal properties or not. The first experiment which the author made, was on a lady who was affected with diarrhœa, of an obstinate nature, for sixteen months. Every kind of treatment, including astringents, had been tried, without success. After the administration of five pills, each containing a quarter of a grain, the diarrhœa completely disappeared, and, in addition, the lady found herself cured of a leucorrhœa, with which she had been affected for the last eighteen years. It is now a year since this lady has been cured, and she continues to enjoy perfect health.

This first experiment proves that tannin acts not only on the mucous membrane with which it is in contact, but also exercises a marked influence on all the mucous membranes of the body. Other cases soon confirmed this conclusion. Thus, a young woman, who was affected with chronic pulmonary catarrh, was cured with six grains, administered in the dose of a quarter of a grain per day. It would be impossible to give an account here of all the cases of diarrhœa, catarrh, &c., which have been cured under the hands of the author by the use of tannin. We shall, therefore, content ourselves by simply transcribing the conclusions to which the experiments of M. Cavarra, with this new medicinal agent, have conducted him.

1st, That pure tannin, by producing a degree of impermeability of the mucous membrane, and also by its action on the nervous system, cures diarrhœa, leucorrhœa, and chronic catarrh.

2nd, That its efficacy in hæmoptysis, uterine hæmorrhage, and gonorrhœa, is also well demonstrated. The author reports having cured two old claps, one dating fifteen, the other twenty years.

Tannin may be given in the form of pill, or lavement, or as a draught, and in the dose of from a quarter to two grains, without producing any unpleasant constipation, but its effects must be observed with a little care.—*Bulletin Gén. de Therap.*, March 30, 1837.

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17. *Tartar Emetic.*—Drs. Crichton and Mayer, observed an extraordinary effect of tartar emetic in a girl, aged 14, who had taken ten grains within a fortnight. Some days after this remedy had been discontinued, a pustular eruption appeared, exceedingly like the exanthem breaking out after the external application of tartarized antimony. In three individuals who, during their complaints, had had a strong tartar emetic ointment rubbed on the abdomen, small pocklike pustules were found on the internal surface of the peritoneum after death.—*Brit. Ann. Med.* from *Medico Pract. Abhand.* B. 1.

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18. *Phlorizine.*—M. de Koninck has discovered a new medicine to which he has given the above name. It is an extract from the bark of the apple tree, and is obtained in the following manner:—Place the fresh bark of the roots of apple trees in a pipkin, covered with water, and leave it to simmer for five hours; then strain, and put the same quantity of water again on the bark; simmer an hour or two; then strain while hot, and leave it in different vessels for 36 hours; a great quantity of phlorizine will then be found at the bottom, and on the sides of the vessel there is a sort of granite, more or less dark. Collect and dissolve it, and let

it crystallize several times; it will then be quite purified. Or, pour weak spirits of wine over fresh bark; expose to the air for eight hours, in a temperature of 60 deg. This operation is to be performed once or twice, the liquor is mixed and distilled, and thus the greatest part of the alcohol is retained. Leave the drugs to cool, and on the next day there is much phlorizine, crystallized, as in the first process, but much clearer. At the hospital in Brussels, from 10 to 14 grains, with a drachm of sugar, in one dose, given for intermittent fever, produced the most marked success where quinine had failed.—*Continental and Brit. Rev.*

19. *Parsley juice as a substitute for quinine.*—Dr. Pott has long employed parsley juice in intermittent fevers, as a substitute for quinine. The juice is extracted thus:—Chop and then pound a handful of fresh parsley, pour an ounce of water over it; pound it again; pour the whole on a wet linen rag, and then wring out the sap over a vessel. Three ounces to be taken at two different times, a few hours before the fever comes on. Intermittents not cured by quinine have been completely so by this remedy. It has been prescribed in various other diseases, and although nearly erased from the pharmacopœia, Dr. Pott's observations may perhaps restore it to favour.—*Ibid.*

SPECIAL PATHOLOGY AND SPECIAL THERAPEUTICS.

20. *Enlargement of the Thymus Gland.* It would appear from recent investigations that the sudden paroxysms of suffocation, sometimes terminating fatally, which occasionally attack infants, are caused by enlargement of the Thymus Gland. In addition to the cases adduced by Dr. Montgomery, Hirsch, Kopp, Roesch and of our correspondent Dr. Roberts of New York (see our three preceding No.'s) we find in the *Berlin Med. Zeit.* (No.'s 47 and 48) two cases related by Dr. Malin, and in the *Lancet* of 20th of May, 1837, a third by Mr. Wm. Hughes, all confirmative of the pathological view to which we have alluded. The first case described by Dr. Malin occurred in a child seven months of age. The infant enjoyed good health, but the nurse remarked that it frequently screamed acutely, without having any apparent cause of suffering. In a short time the infant was seized with fits of suffocation, coming on at irregular intervals, without any determinate exciting cause, and during which respiration seemed to be entirely suspended. The fit commenced with some quick interrupted efforts at respiration; the face then became of a dark red hue. Soon afterwards the respiration was entirely suspended, and the child lay without pulse, and excessively cold, for one or two minutes, when the paroxysm terminated by a very characteristic cry. The various remedies which were employed were attended with no benefit whatever; the paroxysms returned with increased frequency, and the child fell a victim to the intensity of the disease, about three weeks after its first appearance.

On examining the body, Dr. Malin found the thymus gland so excessively enlarged that it filled the whole of the anterior mediastinum; its colour was pale red, and it resembled the liver in structure. The upper edge was in contact with the thyroid gland, while the posterior one, of a pointed shape, was closely attached by cellular substance to the arch of the aorta. The inferior part of the thymus gland covered the whole of the apex of the heart, prevented its pulsation against the ribs, and hence rendered it almost impossible to hear the beating of the heart during the last few weeks of the patient's life. It weighed 7 drachms, 10 grains, and had pushed back the lungs against the posterior wall of the chest. When cut into, and submitted to strong pressure, a small quantity of a milky-looking slime was discharged. The substance of the heart, and especially the left ventricle, seemed very soft. With this exception, nothing abnormal was observed in the cavity of the heart.

The second case was a girl four years of age who had suffered for several months under an attack of hooping-cough, from which, however, she recovered without any medical assistance. Since then the child was subject to paroxysms and difficulty of breathing, coming on suddenly during the night, and compelling the little patient, whose countenance assumed a bluish tint, to assume an upright

posture in bed. In the month of January the fits of suffocation became more intense, and the child was carried off by a violent paroxysm while the parents were absent in search of medical assistance. On examining the body, the thymus gland was found enlarged to at least three times its normal volume; the structure of the gland, however, appeared to be normal. Nearly all the bronchial glands were enlarged, and tuberculous. One of them, placed near the bifurcation of the trachea, was as large as a hen's egg, extremely hard, and converted into tubercular matter. Both bronchial tubes were so compressed by the tumour, that only about one-third of the calibre of each remained free; yet the child did not suffer constantly under a difficulty of breathing, and the sibilus in the chest was only heard from time to time. The lungs and heart contained a quantity of dark blood. The former were filled with the tubercles in a crude state.

The subject of Mr. Hughes' case was a child eight months of age, afflicted with hooping cough. This infant was frequently seized without premonition with alarming fits of suffocation, which however lasted only a few minutes. Whilst improving in health, the hooping cough having considerably abated, and without any previous appearance of indisposition, one of these attacks occurred and in a few minutes the child was a corpse. On examination, the only deviation from health found was an enlargement of the thymus gland which filled the whole of the anterior mediastinum, and pressed upon the bronchial tubes; the inferior portion of the gland covered the apex of the heart and was firmly adherent to the pericardium, which contained more fluid than natural. The gland weighed eight drachms and five grains, but the structure was natural.

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21. *Decoction of Sarsaparilla and Nitric Acid, in certain cases of Chronic Cough.*—The utility of the decoction of sarsaparilla and nitric acid, has been long recognised in cachectic states of the system, and affections of the skin, whether syphilitic or mercurial; and it has also proved itself very efficacious in various species of sore throat, chronic pains, and other textural derangements of a slow and tedious character. The marked effects which the above combination produces in these diseases of the general habit, skin, and mucous membrane of the throat, has led Prof. Graves of Dublin, to infer that it might be employed with advantage, in cases of chronic cough, attended with redness and relaxation of the mucous membrane of the fauces, elongation of the uvula, and some degree of general debility. "I have observed," he states, "that such cases are almost invariably accompanied by more or less derangement of the digestive organs and an irritable state of the general system; and from their analogy to other states of the constitution, in which nitric acid and sarsaparilla have proved extremely beneficial, I was induced to give this combination a trial; and I can now state that it has not disappointed my expectations. Decoction of sarsaparilla, given in doses of a pint daily, with a drachm or more of nitric acid, has proved a most useful and valuable remedy in the treatment of cases of this description. It is scarcely necessary to observe, that in addition to the use of this remedy, change of air, moderate exercise and recreation, and a nutritious, but not heating diet, are required. In some of these cases it will be also necessary to apply lotions of the nitrate of silver or sulphate of copper to the fauces and tonsils; and where the uvula is greatly relaxed, it will require to be frequently touched with the nitrate of silver, or even to be shortened by an operation. Guided by the same principles, I have frequently exhibited decoction of sarsaparilla with nitric acid in cases of persons of a reduced and relaxed habit who are troubled with a slight but frequently recurring cough or hem, and the expectoration of a few bronchial sputa, occasionally mixed with blood, which appears to come, not from the lungs, but from the eroded mucous membrane at the top of the pharynx and larynx. In such cases I have observed that the cough and expectoration took place chiefly in the morning after awaking, and in some had continued for weeks without any dyspnœa, pain in the chest, or fever. I may also remark, that the same combination may be often given with advantage to patients whose mouths have been recently made sore by mercury administered for the cure of bronchitis or pneumonia, and will occasionally be found useful in removing the still lingering remnant of pulmonary disease, at a time when mercury could not be pushed farther with safety.—*Clinical Lectures.*

22. *Tartar Emetic and opium in the delirium of Typhus.*—Dr. HUDSON in an interesting article in the *Dublin Journal* for July last, on the use of certain remedies in typhus fever and its complications, states that he has tried Dr. Graves's mode of giving opium, viz: in combination with tartar emetic, (see this Journal for May, 1836, p. 221,) for the relief of the delirium of typhus, in six cases. In one, a case of furious delirium, this treatment as well as every other failed: in the others, and in numerous cases since the period comprised in his report, he says that it has succeeded admirably. It seems, he adds, best adapted to that restless kind of delirium resembling delirium tremens, in which the patient cannot be restrained from attempting to leave his bed, and walk about the ward; when every muscle is tremulous, the eye red from want of sleep, the tongue dry, and the patient presenting that kind of spurious excitement, which might induce the attendant (injudiciously no doubt) to order the local abstraction of blood, by leeching the temples, or opening the temporal artery. In prescribing this medicine, Dr. Hudson thinks it advisable to use caution in two ways: 1st. Not to give it *after* it has produced sleep. 2nd. To follow it up by the prompt and frequent exhibition of wine, and such nourishment or cordials as the more or less advanced stage of the disease, and debility of the patient, may require; as it seems to him that there is increased risk of the patient sinking, unless timely supported after sleep thus induced.

23. *Castor oil Frictions in Gout.*—A writer in the *Lancet* (April 8, 1837,) extols the external application of castor oil, as one of the best and most effective remedies in the treatment of *Podagra.* The method of applying it, is, by rubbing the castor oil, at bed time, into the affected limb, and then immediately wrapping it up in warm flannels. It is said to act like a charm, and to have cured some of the worst forms of gout after every other treatment had failed.

24. *On the indications for the use of Chlorine and Muriatic Acid Vapours, in Diseases of the Air Passages and Lungs.*—In the years 1829, 1830, and 1831, Professor ALBERS of Bonn, instituted a series of clinical experiments, in the Medical Hospital at Bonn, on the effects of chlorine vapours in phthisis, chronic bronchitis, and chronic pneumonia; these experiments were repeated in his private practice, during the years 1832 and 1833. The chlorine vapour was applied in the manner recommended by Murray; or instead of exposing the patient to vapour strongly impregnated with chlorine, for the space of a few minutes at different times in the day, he was kept the whole day in a chamber filled with very weak chlorine vapour. The vapour was produced by boiling chloride of lime, and then heating it in a large dish, or by sprinkling it with muriatic acid; sometimes it was generated by pouring sulphuric acid on culinary salt.

The following are the conclusions deduced by Professor Albers, from the results of his experience in numerous cases:—

1. Chlorine acts as a stimulant, but when the remedy gets into the blood, its effects are antiphlogistic. It produces a tickling sensation in the eyes, nostrils, and throat, and sense of roughness and constriction in the chest. If the throat of an individual who has been exposed for a long time to the vapour of chlorine be examined, it will generally be found of a deeper red than natural. These and other facts are sufficient to prove that chlorine vapour operates as a local stimulant. It is on this account more remarkable that chlorine when it gets into the blood, exercises an influence of a directly opposite nature. It diminishes the frequency of the pulse, calms excitement, and produces effects which may be termed antiphlogistic. This difference of effect, however, before and after the remedy gets into the blood, is not peculiar to chlorine; it is common to many remedies of an antiphlogistic character, and is observed in nitre, tartar emetic, and many of the neutral salts. When there is no hæmoptysis or violent local irritation present, chlorine inhalations may be used in diseases of the lungs and air passages; its stimulant effect gradually diminishes, and after some time the mucous surfaces of the lung become less sensible to its exciting influence.

2. In tubercles of the lungs, in chronic catarrh, in chronic inflammation and ulceration of the bronchial mucous membrane, and in dilatation of the bronchi, chlorine vapour is of no service, and in most cases will not be borne, in consequence of the irritation it produces. On the other hand, it has a very salutary

operation in pure ulceration of the lungs or vomica. This state, however, is not to be confounded with suppurating pneumonia, to which the use of chlorine vapour is not so applicable. How far patients labouring under disease of the lungs may be adapted for using this remedy cannot be determined; much will depend on general irritability and individual disposition, and the chlorine vapour should be always tried experimentally at first.

3. From the foregoing observations it appears, that chlorine vapour produces salutary effects in chronic ulcers of the lungs; this agrees with the results obtained in surgical practice from treating old ulcers with the solutions of chloride of soda and chloride of lime.—*B. & F. Med. Rev.* from *Hannoversche Annalen*, 1836.

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25. *Nymphomania before puberty.*—The following extremely curious case of a child scarcely 12 years of age, affected with nymphomania, was related by M. Magendie, in his recent course of lectures on the physiology of the nervous system. The subject of this case "abandoned herself to the practice of masturbation, of which she was guilty several times in the course of the day, and that in the most open and undisguised manner. This child, of gentle and engaging disposition, and endowed with a considerable share of intelligence, was so powerfully influenced by the fatal passion which dominated, while it undermined her existence, that she at length became an object of horror to her parents and friends, to whom she frequently detailed in the morning, and with the utmost frankness, the excesses committed during an agitated and imperfect sleep. This child was brought to the *Hôtel Dieu*, where she soon died with all the symptoms of compression of the brain. Immediately on her arrival I ordered her to take some cold baths, hoping to calm the nervous system, and diminish the irritation of the genital organs. One or two baths only were administered when the little patient was seized with a species of hallucination, and an exaltation of the intellectual faculties, manifesting itself by an incessant loquacity. At the following visit the child answered rationally enough all the questions which were addressed to her, and I was unable to discover any of the symptoms which ordinarily accompany acute inflammation of the brain or of its membranes. I ordered sinapisms to the feet. On the following day, however, I found the child labouring under the symptoms of compression of the brain, which gradually became more profound, and finally terminated in coma and death.

"The *autopsy* was commenced 48 hours after death, and it required but a very superficial examination to show how closely connected the nervous system was with the disordered phenomena, in the midst of which the patient's life terminated. The first thing done was to expose the anterior surface of the spinal marrow, and collect with care the cerebro spinal fluid; the quantity of this latter obtained, amounted to about two or three drachms, which you see here. Instead of being clear and transparent, as it should be, and as you have seen it when extracted from a healthy animal, the fluid resembles an exhalation of serum, and is of a dull yellowish colour. You know, from what has been already said at an early part of the course, how profoundly the functions are deranged by any remarkable modification of the cephalo rachidian fluid, which is sometimes found not only altered in colour, but more or less deviating from its normal degree of fluidity. Here, then, the alteration in the colour of the cerebro-spinal fluid puts us on the trace of the cause of this child's death, which evidently must be the same that produced the alteration of the fluid; and this leads us to examine the state of the cerebro-spinal axis itself, and of the membranes enveloping it. But first let us determine the condition of the fluid in the various parts of the cranium and vertebral canal.

[Here M. Magendie directed the attention of the pupils to a layer of puriform liquid, mixed with albuminous flocculi, which extended over the whole surface of the spinal marrow, and was contained between the arachnoid and pia mater.]

"When I remove (continued the Professor) the fibrous membrane, you may observe how the arachnoid is elevated at several points by the effusion of fluid beneath it; the brilliancy and smoothness of the surface sufficiently indicate that the effused matter lies beneath the arachnoid, and, consequently, occupies the seat of the cerebro-spinal fluid. Most physicians would regard the pathological changes now before us as simply an effect of arachnitis, but for my part I see an alteration, a degeneration, of the cerebro-spinal fluid, produced by some special lesion of the

pia mater; the disease probably commenced by an obstacle to the venous circulation in that membrane, which was soon followed by alterations of its normal secretion, and consequent derangement of the functions of the whole nervous system.

"A physician, who has devoted a good deal of attention to diseases of the brain as connected with mental derangement, lately published a memoir on the false membranes which, according to him, are formed between the two free surfaces of the arachnoid, or, in other words, within the great cavity of that membrane. This is in opposition to what you have just seen in the case before us, but I do not hesitate to say, that the author of the memoir alluded to has fallen into an error; he has mistaken, altogether, the seat of these false membranes, which, like purulent effusion, transudation of serum, &c., almost invariably exist in the subarachnoid cavity, *i. e.* between the arachnoid and pia mater. Indeed, many writers, and especially the older ones, fall into the same error, which depends on want of attention, more than anything else, on the part of those who make autopsies; however, it must be confessed that in some cases it is difficult to determine the precise seat of the lesion, or the nature of the change which the fluid has undergone. I regard these false membranes, for the most part, as depending on a change in the consistency of the cerebro-spinal fluid, and so far we advance a step beyond modern pathologists: inflammation is their resource, but it is frequently insufficient to explain the cause of death; while, on the contrary, I have demonstrated, by a series of experiments which you have all witnessed, that any notable alteration in the physical properties of the cerebro-spinal fluid is followed by a profound disturbance of the functions of the nervous system, and generally terminates in death.

"Look now at the state of the pia mater, and observe how the injected vessels form a net-work distinguishable underneath the arachnoid, for let me impress you with the idea that in all these cases the alteration occupies the subarachnoid cavity, and not the free, smooth surface of that membrane. I have now exposed, in all directions, the great cavity of the arachnoid, and you see that it contains a quantity of purulent-looking matter: this, however, is not produced by the serous surface of the arachnoid; the latter is a tissue enjoying a very high degree of permeability, and the effused fluid you see here has made its way by imbibition from the cellular membrane lining the cerebral anfractuosities. The osseous envelop of the brain does not present any particularity worthy of notice; however, the cavity on the left side seems somewhat more developed than that of the right side. The region of the cerebellum is but moderately developed, a fact which is in contradiction of the doctrine of Gall, who placed, as you know, the seat of amativeness in that organ; now, the present subject, affected with this passion or instinct in a very high degree, should have presented a corresponding developement in that part of the nervous system in which Gall supposed the instinct to reside. The only remarkable circumstance connected with this portion of the head, is the excessive thickness of the skull where it covers the cerebellum. I am far from wishing to deny the possibility of any relation existing between the cerebellum and generative system; but, on the other hand, I cannot prevent myself from thinking that such relation is anything but constant when I find in so many cases high irritation of the genital apparatus coinciding with atrophy or more or less destruction of the cerebellum. The back part of the brain, then, is, as I said, but slightly developed in the present case: on the contrary, the whole mass of the cerebrum presents a greater volume than we usually find at this age. The same purulent effusion, already noticed, may be observed on the superior and inferior surfaces of the cerebellum; the cerebral pulp itself is of good consistency, and much injected with blood; it is probable that we shall find more or less effusion of serum in the lateral ventricles. I have now exposed the central parts of the cerebrum; the ventricles contain some clear fluid, but in small quantity.

"Let us now direct our attention to the state of the genital organs. The external parts are red and injected: on separating the external labia the hymen appears in a state of perfect integrity, a circumstance which is excessively curious when we remember the practices to which this child constantly abandoned herself. The clitoris is very small, scarcely developed; it does not present anything worthy of notice; the vagina appears normal, without any marks of irritation, injection, &c. On arriving at the uterus we find that instead of being developed

it is actually smaller in dimensions than the organ usually is at the age of 15. The neck of the uterus does not present the least prominence. The only parts of the reproductive system which exhibit any deviation from the normal state are the ovaries. Those bodies are much more developed than they should be; and, what is very remarkable, some of the vessels of Graeff can be distinguished with the utmost facility; here is one that is highly developed. You know that these vesicles are considered as a proof that puberty has arrived, but this child was far from affording external signs of puberty. The conformation of the bladder and rectum presents nothing extraordinary.

"Here we may stop for a moment to ask ourselves, did the existence of the nymphomania depend on the developement of the ovaries, or the presence of the vesicles just alluded to? This terrible disease has occupied the attention of several writers, who have put forward a variety of theories; and, in fact, what is more easily made than a theory, provided you are not asked to furnish proofs of what is advanced: thus some authors place the seat of nymphomania in the uterus, others in the clitoris, others again in the ovaries; finally, others place it in the cerebellum. For my own part, without presuming to decide a question which is still involved in obscurity, I am inclined to connect the nymphomania of the present case with an abnormal developement of the ovaries, and with the presence of vesicles in those bodies. However, nothing certain can be concluded from a single case: if I have occupied so much of your time with its details, it is with the hope that at some future time it may serve to throw light on a disputed question in physiology."—*Lancet*, June 24, 1837.

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26. *Case in which the functions of hearing, speech and taste, but not of smell, were destroyed by the "wind of a ball."*—Professor Magendie, in the lecture from which we have just given an extract, exhibited a Pole who had been knocked down by what is vulgarly called "the wind" of a cannon-ball, during one of the numerous combats in which he was engaged for the independence of his native land. The ball which affected him killed two of his friends at his side. The young soldier rose up from the field immediately after the accident; at first he thought nothing was the matter, but in a few seconds he perceived that he was completely deaf, and unable to hear the musket shots fired along side of him. The power of vision was troubled only for a short time, but he had entirely lost the faculty of speech, and that of taste; yet, strange enough, the sense of smell remained intact. The lesions just described have continued with little modification up to the arrival of the young soldier at Paris. I have just made an experiment which demonstrates that the special sensibility of the palate and tongue no longer exist: I placed some mustard on the anterior part of the tongue, but the patient remained unconscious of its presence until the mustard descended as far back as the pharynx and top of the œsophagus. The sensibility of the integuments of the head and face is limited on either side by the sterno-cleido-mastoid muscles. The muscles which act during deglutition, enjoy their full force; hence we cannot admit any affection of the glossopharyngeal nerve. The paralyzed state of the tongue, the impossibility of communicating to it any motion from behind forwards, demonstrates a loss of power in the genioglossal muscles, and hence the ninth pair of nerves also participates in the lesion. By analyzing, then, the symptoms under which this unfortunate young man suffers, we arrive at the diagnostic of a lesion of the fifth pair of nerves, giving rise to all the phenomena connected with loss of sensibility; moreover the eighth pair is paralyzed on both sides, together with a portion of the ninth pair.

"Here we have a practical illustration of the utility of experimental physiology. A correct knowledge of the connexion existing between functions and organs, leads at once to a knowledge at least of the seat of disease, if not of its nature. In the present case the lesion occupies the three nerves just mentioned, and it is to them that a rational method of treatment must be addressed. I commenced by trying the galvano-puncture; I introduced a platina-needle through some of the filaments of the supraorbital nerve, and a second into the superior maxillary branch of the fifth, but this produced such strong convulsive movements of the eye-ball, that I was forced to desist. I shall, however, repeat the trial again. The same means also determined convulsive movements in the muscles of the

face and tongue, but without any permanent benefit; the latter organ still lies motionless in the interior of the mouth.

"We are now inclined to ask, what portion of the central nervous system is more immediately affected? for we cannot suppose that the same accident injured separately the fifth, eighth, and ninth nerves: the lesion evidently occupies the cerebro spinal axis, and, we have every reason for thinking, that part of the medulla oblongata and pores from which the nerves mentioned above, arise. The cannon-ball probably passed obliquely along the back of the head and neck, without injuring the integuments, but merely producing one of those concussions which are frequently mentioned in the annals of military surgery. I propose continuing the use of galvanism, and when the patient returns, in fifteen or twenty days, I trust we shall have a more favourable account to give of him.

"Time will not permit me to enter into any details on this curious case, from which, however, you are now sufficiently advanced to draw some conclusions for yourselves. I shall therefore terminate the lecture by reminding you, how absolutely necessary it is for the physician to possess correct anatomical and physiological ideas, if he aim at understanding the various lesions which the nervous system may present to him, and is desirous of really advancing the science of medicine, instead of building up theories which never can produce, as they never have produced, any solid advantage."—*Ib.*

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27. *Gelatinous softening of the stomach in children.* The fourth No. of the first vol. of the *Zeitschrift, für die gesammte Medicin*, contains an interesting article on this affection by Dr. Aug. Droste of Osnabrück. In adults softening and perforation of the stomach have been observed as consequences of abscess, of cancer, of gangrene, and other affections; but the species now alluded to, seems peculiar to children, and unattended as it is with symptoms of inflammation, appears to constitute a disease "sui generis."

Amongst the causes, those which seem to have the most direct influence in the production of softening of the stomach in children, are, the first dentition, weaning, and artificial feeding. The complaint, at all events, is principally limited to the two first years of infancy. Thus Romberg assures us, that, in fifty cases, he saw only six between two and five years of age. Unfortunately our knowledge of the immediate causes is still more obscure. Romberg considers it to depend on a want of harmony (or balance) between the secretions of saliva and gastric juice, and proposes, in cases where spoon feeding is necessary, to employ a peculiar sucking apparatus, because the action of sucking is a specific excitement to the secretion of saliva.

The ideas of John Hunter on gelatinous softening of the stomach in adults, are not applicable to the present disease, for, in a great number of cases, we find other points of the alimentary canal softened, though they were evidently inaccessible to the gastric juice.

Camerer,* attributing the affection to disordered function of the nerves distributed to the stomach, performed a number of experiments on dogs, and obtained the most perfect specimens of softening, by dividing the pneumogastric and sympathetic nerves; hence he was induced to place the essence of this disease in inflammation of the eighth pair of nerves terminating in paralysis; in this way the nervous influence is totally suspended, and as the secretion of the gastric juice continues, it acts on the mucous membrane, as on an inert substance, unable to resist its solvent power.

However ingenious this explication may be, it is a mere hypothesis; for the different autopsies which have been made, have never shewn the pneumogastric nerves in a state of inflammation: the treatment founded on this view of the disease seems also, if not absolutely injurious, at least inefficient. On the contrary, the author speaks highly of the muriate of iron first employed by Pommer, in two cases, with the most decided effect.

The elder child, six months of age, took two scruples of this remedy, in seven days: the younger, only four weeks old, took 24 grains in eight days. The following formula was adopted by Pommer:— ℞. Ferri muriat. 10 a 15 gr.; decoct.

* Researches into the Nature of Softening of the Stomach. Stuttgart. 1828.

altheæ ʒij.; syrup. altheæ 3vj.; gummi arab. 3ij. Two tea-spoonsful every hour. Both children recovered.

In two similar cases, Hergt gave the muriate of iron in conjunction with musk and extract of bark, and with equally fortunate results.

The following cases, reported by the author, supply additional testimony in favour of this remedy:—

A healthy, well-formed child, though of delicate constitution, somewhat more than nine months old, suddenly awaked from a sound sleep with acute screams, and continued agitated and sleepless. Symptoms of acute fever now set in; the abdomen and head were very warm; and the child dozed with half-closed eyelids; the appetite was lost; severe thirst; constant nausea, but no vomiting; the body was covered with sweat; and exposure to light produced distress. These were soon joined by symptoms of a different nature; the expression of the countenance became altered and anxious; the face pale; the forehead covered with cold sweat; the mouth distorted, and the limbs convulsed. No apparent cause could be discovered which might explain accidents of so severe a nature. There was no trace of irritation of the gums; no excess in diet, &c., had been committed. However, as the child lay with its head constantly on the nurse's breast, cried out whenever it was moved, as the bowels were constipated, and the abdomen free from pain on pressure, fears of hydrocephalus were entertained. An antiphlogistic treatment (with the exception of bleeding) was employed, and calomel, in conjunction with the flores zinci administered internally.

On the 11th day of the disease, after several natural stools had been passed, the child evacuated a compact mass of fœtid slimy matter, about two inches long, and of the thickness of a raven's quill.

The child, hitherto without appetite, and reduced to a skeleton, now became voracious, and although the lightest nutriment was administered in very small portions, after each repast he became uneasy and cried. A cold sweat covered the face, and the contents of the stomach were rejected by vomiting. These symptoms, alternating with a weak cough, continued for three weeks without receiving any modification under the treatment employed, which consisted in the administration of gentle stimulating and strengthening remedies, warm baths, and aromatic fomentations to the stomach and abdomen.

Under these circumstances the author prescribed his favourite remedy. The child enjoyed some sleep that night, and was much more tranquil than he had been for some time back; the vomiting, also, gradually diminished. On the following day he took a tea-spoonful, every hour, of the following mixture:—℞. Tincturæ ferrimuriat.; extract. cortic. chinæ, aa. ℈ss.; aq. flor. aurant. ʒij.; syrup. corum. ʒj.

Under this treatment, aided by diet, the administration of a mineral water for drink, &c., the anxiety, cough, and cold sweats, gradually disappeared. The little patient recovered its strength, and became a fat, healthy child.

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28. *Scald Head.*—Sir Francis Smith, M. D., in an article in the *Dublin Journal* for May last, states that he considers Kreosote almost a specific in Tinea Capitis. He uses the remedy of the specific gravity 1.064, and nearly colourless.

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29. *Ulcers on the septum narium.*—These ulcers often prove very intractable, as most practitioners have observed. We have found the nitrate of silver to succeed more frequently in curing them than any other application. Sir Francis Smith, M. D., has, however, succeeded in effecting a cure with kreosote in a case in which that remedy, the sulphate of copper, and iodine, had all failed. The subject of it was a lady, of scrofulous habit, in whom the ulcers had existed for some months, and had appeared towards the conclusion of a very copious catarrhal defluxion from the Schneiderian membrane. The ulcers amounted to four, varying in size from the head of a pin to the section of a very large pea; three on one side of the septum, and one (the largest, and the first which had made its appearance) on the other side. They possessed the peculiar characters which those ulcers generally assume; appearing to entirely sink through the lining membrane, and to rest upon the cartilage or bone; which, however, Dr. S. believes they rarely do, except in very advanced cases.

He at first made use of a wash, consisting of one part kreosote, with sixty of

water; in which proportions they unite at common temperatures; the wash to be snuffed up the nose frequently in the day. The odour was complained of as very disagreeable, and at the end of two days, he was disappointed by finding that no progress of improvement, in the appearance of the ulcers, had taken place. He now determined to apply the kreosote in its pure form, and began by pencilling the edges of the ulcers with a brush smeared with kreosote, and directing the patient to inhale the fumes of acetic acid for a few seconds subsequently. The application of the pencil was rendered easy by firmly grasping the ala nasi, and drawing it outwards; and he advised the inhalation of the fumes of acetic acid for two reasons: first, because acetic acid is the proper solvent of kreosote, and would, by being inhaled immediately after its application, have the effect of rendering its action more equable and uniform; and secondly, because the odour would tend to counteract the disagreeable fuliginous flavour of the kreosote. The next day he had the gratification to find the character of the ulcers improved; the edges were much less abrupt; and he then determined to apply the kreosote lightly over the whole of the ulcer on the left side of the septum, and to brush those on the right side with a solution of kreosote in twenty parts of acetic acid; and he continued to do so on alternate days for a week, at the end of which time, the ulcer on the left side of the septum was reduced to a mere point, having every appearance of immediately healing; whilst those on the right side, though improved in appearance, having smooth edges gently declining towards the centre, still preserved their original dimensions. He now applied to them also the pure kreosote, repeating the application on alternate days, accompanied with the inhalation of the fumes of acetic acid. The rapidity with which the ulcers now healed was truly wonderful. That on the left side, to which the kreosote in a pure state was first applied, was completely healed in ten days; and those on the right side, in six days after the first application of pure kreosote, and sixteen from commencement of treatment.

"From this case, it would appear, says Dr. S., that kreosote possesses the power of healing solutions of continuity in mucous membrane, and that with great rapidity, and in cases where all other treatment has proved unavailing. We also gather, that it is most to be relied upon, in its pure state, for the treatment of small breaches of continuity; although it possesses a decided action when dissolved in acetic acid, in the proportion of one part to twenty; but that the solution of one part in sixty of water, though preferable for use where the surface is large, was found quite useless in the instance before us.—*Dub. Journ.*, May 1837.

30. *Remedy for Ptyalism.*—Knod and Kluge assert that salivations, pains, swelling, and mercurial ulcerations are removed in the space of from four to six days by the following prescription: ℞. Iodini grs. v.; alcohol ʒij.; solve et adde, aq.; cinnam. ℥iiss.; syrup simp. ℥iss. To be taken in the 24 hours in drachm doses.—*Gaz. des Hôp.*, July 18, 1837.

31. *Protiodide of Mercury in Psoriasis.*—M. Poiret recommends the following ointment to be rubbed in the morning and evening on the parts affected with the scaly eruption. ℞. hydrarg. protiodid. ʒj.; axung. ℥j. The patient ought at the same time to take simple alkaline or vapour baths alternately.—*Ib.* July 20.

SURGICAL PATHOLOGY AND OPERATIVE SURGERY.

32. *Introduction of air into the veins during operations.*—On the 4th of July, M. Amussat communicated some observations to the Academy of Medicine of France on this subject, and detailed the method which he had found successful in preventing the fatal effects of its occurrence. He was operating, on the 1st of this month, on a woman aged 47, from whom a scirrhous affection of the right mammary gland, and subjacent and surrounding tissues, required to be removed. He had taken away all the right breast, and the adjacent parts implicated in the disease, and was tracing and cutting it away towards the opposite side, when suddenly, on making an incision into some suspected granulations on the inner side of, and below the left clavicle, he, and three other surgeons who were assisting him,

heard a sudden, distinct, interrupted sound, as of air passing into a cavity through a narrow opening. The patient immediately felt a sensation as of suffocation, and said she was dying. A second sound like the first, and following it at a brief interval, left the operator in no doubt of the nature of the accident, and he placed his finger on the spot from which the sound proceeded. The patient was more impressed with a sense of impending death than before; a cold sweat covered her face; her eyes were directed upwards; and all round her thought her dying. M. Amussat thought now of trying the effect of pressure on the chest to force out the air from the vein, whose orifice was uncovered. He accordingly compressed the whole chest very firmly several times, and then made an assistant press on the spot from which the sound had proceeded. After a few minutes the patient became much better, her anxiety diminished, and the operation being completed as soon as possible, a portion of the tissues around the situation of the open vein was tightly tied up with a ligature. The patient has gone on perfectly well since the operation, and there is every reason to anticipate her complete recovery.—*Gazette des Hôpitaux*, 6 *July*, 1837.

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33. *Case of fall from a great height, with various injuries—followed by recovery.*—The following surprising case of fall the distance of 170 feet almost perpendicular, with recovery, is recorded by J. Patterson, Esq. in the *Edingburgh Med. and Surg.* Journal for January last. Private Thomas Gough, 42nd Royal Highlanders, aged 19½ years, on the 29th of August, whilst in a state of intoxication, attempted to escape from the castle of Edinburgh, in consequence of being refused leave to visit the city. For this purpose he chose the south side, and made his exit through a small embrasure overlooking the most precipitous and rugged face of the castle rock. His intention was, to jump upon a projecting ledge, from which he imagined he could scramble down the remaining part of the descent; but in doing so he broke his left leg; and in his own words, "stotted from rock to rock, till the road keppet him." He fell the astonishing height of 170 feet almost perpendicular: and was found on the road immediately after his fall, quite insensible, and bleeding profusely.

He was instantly carried into the Castle, and on examination it was found he had received the following injuries; viz. three deep wounds on the head, in two of which the bone was exposed, and there was a fracture over the right frontal sinus;—the left clavicle was fractured about one inch from the sternal articulation;—the right wrist-joint was dislocated backwards, and both the radius and ulna of the same side were fractured;—there was an extensive bruised wound in the right ilium;—and the left tibia and fibula were fractured about two inches above the ancle-joint!

He was occasionally delirious for several days; but, with this exception, not a bad symptom appeared. He is now (2nd Oct.) nearly well, and there is every prospect of his resuming his military duties in a very short time.

Dec. 14.—The wrist-joint remained weak and enlarged for some time. He has now been discharged from the Hospital; and for a month has resumed all his duties as an efficient soldier.

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34. *On excision of the smaller joints.*—By Dr. Gernet of Hamburg. Among the many improvements in modern surgery, the substitution of excision of diseased joints and of carious portion of bone for amputation of the limb, is not the least important. A considerable number of years have now elapsed since this principle was first applied to the treatment of caries of the larger joints, and, in a late number of the Hamburg Journal, we find Dr. Gernet, assistant surgeon of the Hamburg hospital, ably advocating its extension to the treatment of caries of several of the smaller joints. He reports seven cases, which were operated upon by Fricke, in the hospital. In four of these, the caries affected the bones of the hand, and, in the remaining three, those of the foot. Of the former number, the disease in three affected the metacarpal joint of the thumb, and was produced in one case by the point of an awl penetrating the joint; in the second, by the cut of an axe; and, in the third, it was ascribed by the patient to a wire, which, some months previously, he had drawn tightly round the thumb; but the chief cause seemed to lie in the cachectic state of the constitution. In the fourth case, the caries affected the metacarpal joint of the middle finger, and, as in one of the former instances, was caused by the wound of an awl.

In those cases in which the foot was the seat of the disease, the caries affected, in the first, the joint between the first and second phalanx of the great toe, and could not be ascribed to any evident cause; in the second, no caries existed, but a large exostosis, which was attached to the head of the first phalanx of the great toe, greatly incommoded the patient. In the third case, the caries affected the metatarsal joint of the great toe.

In all of these cases, the operation was performed by removing the extremities of both bones; and this was judged the more advisable proceeding, even in the case of exostosis, where no lesion of the opposite articular surface existed. The ends of the bone were then approximated as nearly as could be done without much difficulty or causing great uneasiness to the patient, and retained in this position by a peculiar apparatus. Union by the first intention was tried in two instances, but afterwards abandoned, and the wound was stuffed with charpie. Torsion was employed to arrest the hemorrhage from the mouths of bleeding vessels; a practice which seems to be followed in all operations in the Hamburg hospital.

It has been advanced against the operation of excision of the smaller joints, that the time required for the cure, and the length and pain of the operation, were more than equivalent for any advantage which could be derived from a shortened and anchylosed finger, and which perhaps would prove a worse than useless appendage to the patient. We shall therefore examine the results of the seven operations. Of the four cases in which the hand was affected, the success in three was complete. On an average, five and a half weeks were sufficient for the union of the wound and solidification of the bone; and all three were capable of returning to their work at the end of seven weeks. Two of them, in whom the metacarpal joint of the thumb had been affected, regained completely the use of the finger; and the other, the fourth case, was fast regaining the use of the finger when he left the hospital. In the third case, the wound healed slowly; but the patient was unable to use the thumb, and was dismissed at the end of three months, in rather an unsatisfactory state. Of the foot cases, the first was able to use the extremity at the end of five weeks; but, in the second, the cure was retarded by necrosis of a portion of bone till the end of the tenth week. Four weeks sufficed to effect the cure in the third.

In the first set of cases, the operation, including the time occupied in dressing the wound, lasted from fifteen to twenty-six minutes, the two extremes. In the second, ten, or at most fifteen, minutes were required. In no case were bad consequences, which could be ascribed to the nature of the operation, observed to follow.—*B. and F. Med. Rev.* and *Zeitschrift für die gesammte Medicin.* Band iii. heft 4. 1836.

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35. *Remarkable fragility of the Bones.*—To the many extraordinary instances of fractures from the morbid fragility of the bones already upon record, we may add a curious case recently communicated to the University College Medical Society by Mr. Baker. A female 49 years of age, who had been for some years afflicted with scirrhous tumours in various parts of the body, was admitted into the North London Hospital for fracture of the left humerus, incident upon cutting a loaf of bread. A week after her admission she fractured her right humerus on raising herself in bed; she had previously broken the clavicle, in throwing a book out of bed, and had fractured her right humerus, (below the seat of the second fracture) whilst washing the face of one of her children. She subsequently fractured her left humerus in endeavouring to extinguish the flames of a child's dress which had caught fire. A patient of Mr. Liston's fractured her femur, by standing on one leg, and shortly afterwards fractured her arm by throwing it over the edge of the splint. In these cases the callus was abundant and the fractures readily united.—*Lancet*, Ap. 8, 1837.

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36. *Excision of a portion of the spleen.*—This operation has been performed by Dr. Macdonald, as we learn from a recent No. of the *India Journal of Medicine*, on a native about 30 years of age, who was gored in the abdomen by a buffalo. Through the wound, which was about three inches in length, a portion of spleen protruded. Six days afterwards the patient sought the advice of Dr. M., who removed the protruded portion of the spleen with the knife. Recovery was rapid.

Another instance in which a portion of spleen was excited by Dr. W. B. Powell, will be found recorded in our No. for Feb. 1828.

37. *Clinical Observations on opening Abscesses*, delivered at La Pitié. By M. Lisfranc.—If you consult those books which treat of abscess, you will find it laid down as a general rule, that where the abscess is of small size, it ought to be left to nature to effect an opening, because this, it is said, will be small, and consequently leave but an inconsiderable cicatrix. According to this view, small abscesses are to be left to themselves, provided they be not too indolent, and do not advance too rapidly. But I reject this method; for if the aperture made by nature be small, why should not that made by art be made small likewise? It is only necessary for this purpose that we use an instrument with a narrow blade, and that we make a simple puncture.

Again, before opening an abscess, it has been thought that we must wait till the matter be well formed, or in other words, till the abscess be ripe, although to this some exceptions have been made, as with regard to abscesses in the abdominal and thoracic parietes, and those situated in the neighbourhood of tendons and joints. I have opened such abscesses before they were well formed, and what has happened? As long as I confined myself to the method recommended in books, I did not reach the root of the malady. Convinced of its insufficiency, I attempted to combat the inflammation excited by the pressure of the pus on the surrounding soft parts, by fomentations and local bleeding. Immediately after opening the abscess, I applied leeches, which were more efficacious in proportion as the swelling was recent.

This first satisfactory result soon led me to another; sometimes the leeches partly failed, and the induration passed into a chronic state. In conformity with the principles which I laid down in treating of white swelling, I allowed this state to remain undisturbed three or four days, after which I successfully attacked it by means of frictions with ointment of hydriodate of potass and ioduret of lead, as well as by compression, when necessary.

One objection only remains to be refuted—that of the pain, which was supposed to be greater in this than in the ordinary method. It is true that the pain of the incision is a little more acute when an abscess is thus prematurely opened, but it only continues a few moments, and accordingly I hold that abscesses ought to be opened as soon as the existence of pus can be detected. I have followed this practice for fifteen years, and I need not remind you that you have yourselves been witnesses of its success.

If you have to open an abscess of small size, as for instance that of an egg, and if the skin be thinner at the centre than any where else, you must make your opening there for two reasons; first, because the integuments being thinner, the instrument passes through a smaller extent of integument, and consequently gives less pain, and also because the incision gives to the integuments a slight degree of stimulus which facilitates their cicatrization: it is also very easy to prevent the pus from stagnating in the abscess by making pressure on its parietes. For larger abscesses it has become an established rule to open them at the most dependent part, unless there be some important blood-vessel or nerve in that situation.

If, in order to arrive at the abscess, you have to pass through a muscle, the incision ought to be made in a direction perpendicular to the action of its fibres—that is to say, that when the muscle is broad, you must cut across; but if, on the contrary, it be narrow, your incision must be parallel to the fibres, to avoid the risk of dividing it altogether. If in the case of a broad muscle, such as I first supposed, your incision were parallel to the fibres, it would almost always happen that the aperture would be completely closed by their contraction. You have lately witnessed a remarkable case, which I may quote here. A patient, in the ward of St. Louis, had a large tumour on the thigh, which not only afforded the ordinary signs of fluctuation, but evinced a distinct gurgling. I practised an incision parallel to the axis of the thigh, at the most dependent part: nothing was evacuated. I introduced a hollow sound into the wound, but still nothing came out. I then made another incision, at a point where the fluctuation was still more evident, but with the same negative result. The patient was very nervous, and his muscles contracted with force. Astonished at the circumstance, I next introduced a grooved sound along the blade of the bistoury, which yet remained in the wound; but still no pus made its appearance. My next proceeding was to make a movement with the two instruments, in such a manner as to separate

them and prevent the contractile action of the muscular fibres: then, at length, the pus found an exit. I request your attention to this point, which is a very important one, for I am persuaded that it happens very often, particularly when the fluctuation is not very evident, that the surgeon, after having made his incision, erroneously supposes there is no pus, merely because the opening having been made parallel to the direction of the muscular fibres, their contraction again closes up the aperture.

Abscesses of the neck ought to be opened by means of a simple puncture. I do not now allude merely to small abscesses: I have opened, in this manner, purulent depôts of considerable size, and, although the extent of the incision was not in proportion to the collection of matter, yet was all the pus evacuated, while the cicatrix which remained did not exceed that of a leech bite. This precept is of great importance, not only to the welfare of the patient, but to the reputation of the surgeon, and, in this double view, merits your attention. The following is an illustration in point:—I was called, three years ago, to Belleville, to open an abscess on the neck of a young lady, which I effected in the manner above recommended. In the same house was a child, having an abscess similar to the other in situation and nature. A practitioner there opened it by an incision of an inch in length, and had reason to repent of having done so; for the comparison of the two children, after the healing of the wounds, was very disadvantageous to him; the wound in his patient having healed slowly, and left a large cicatrix.

In abscesses of the neck, owing to the smallness of the aperture, the want of freedom with which the pus flows, and its remaining about the cellular tissue, there may be a little lodgment at the lower part, forming a kind of *cul de sac*, whence compression is insufficient entirely to dislodge the matter. In such case it is necessary to make a small counter opening, cutting upon the grooved canula, so as to make a second incision, no larger than the first, and thus the two look like leech-bites. The same precepts apply to those parts generally which are habitually exposed. In the neck, as on the forehead, the incision ought to be transverse,—that is, in the direction which the folds of the skin naturally assume in those situations.

In those parts, however, where the appearance of the cicatrix is not an object, modern surgeons make incisions of several inches where the abscess is large; and experience has proved the advantage of this practice. The bistoury is to be held in the first position: the two last fingers, separated from each other, and extended, are to be placed, if possible, beyond the tumour, as a *point d'appui:* the tissues which are penetrated must be divided in a perpendicular direction: the middle finger, placed on the blade of the instrument, serves to regulate the depth of the incision. This is very important, for if the instrument cuts ill, or if the texture be hard, we are under the necessity of pressing more strongly on the parts to be divided; and without the precaution of having the finger as I have described, we should incur the risk of plunging in the instrument too far. Besides, it is easy to push the bistoury farther in if necessary, by drawing back the finger on the blade of the instrument. We must do all gently: thus, when the blade arrives in the collection of pus, the hand will perceive the fact, because the knife is now passing through a less resistance than before. The only exception to this is where there are muscular contractions of a nature to interfere with the resistance. I cannot well give you a measure of the slowness necessary in this proceeding; but always remember this fundamental principle in operative surgery—*tutè* is better than *cito.*

I have advised you to make the instrument penetrate the integuments perpendicularly: this rule applies to all such punctures, and it is proper that I should point out its importance. If the bistoury traverses the textures obliquely, it will have to pass through a greater extent of them, and hence, consequently, there is more pain; hence, also, the exit of the matter is less free, and probably we may have infiltration of the surrounding parts in consequence. Besides, in abscess on the parietes of the abdomen, there may be a hernia without any indication directing our attention to it. I was called by Dr. Piorry to a woman who had received a kick on the belly, in consequence of which an abscess had formed there. The patient was carefully interrogated, and assured us that she had never suffered from any symptom connected with the digestive organs,—there

had never been anything indicative of hernia. However, I opened the abscess cautiously, when a gush of purulent matter escaped, and I then saw that there was a knuckle of intestine floating in the tumour. What would have happened had I thrust the instrument into the tumour with that degree of *brusquerie* which some affect on all occasions?

An abscess deep in the parietes of the chest or abdomen may be actually in contact with the pleura or peritoneum, while that in the neighbourhood of a joint may reach to the capsular ligament. If, then, you open abscesses of this nature with no more precaution than what is generally adopted—and especially if the muscular contraction prevents you from judging when you have passed from the more into the less resisting part—or, if the abscess be not entirely filled, I repeat, that under such circumstances you incur the risk of penetrating the pleura or peritoneum. It is therefore imperiously necessary to open the abscess as carefully as if it were a hernial sac.

I must not forget to add, that in proportion as the incision is made, the fore-finger being introduced into it, enables us the better to appreciate the depth at which the collection of matter is situated. I know that this is painful to the patient, but the suffering is not of a nature to have any effect upon his health, and we must above all attend to his safety.

If the abscess be in the course of a large nerve or artery, you are told to make the incision so as to avoid it. But the tumefaction and induration of the parts are such, that you cannot recognise their relative situation; and although anatomy tells us the natural situation of the vessels, yet the developement of an abscess often changes the relative position of the surrounding parts. If the artery and nerve in question always retained their wonted place, there would be no difficulty; but, as I have said, they are frequently displaced, and if you cannot ascertain their new position, what are you to do? Certainly, not to imitate those practitioners who, in order to conceal their embarrassment, declare the abscess to be not yet mature, and so postpone opening it. This delay may be attended with the worst consequences. If, for instance, an abscess be situated in the neck, near the carotid artery, the jugular vein, or the eighth pair of nerves, or great sympathetic, in the midst of the fine loose tissue of that region, the matter may find its way into the chest, or, according to Desault, even into the abdomen. It is, therefore, urgently necessary to open all such abscesses very promptly, and it is now twenty years since I have adopted this method. Take the neck as an example: I there make an incision parallel to its axis, and which divides layer by layer successively the skin, the cellular membrane, and, if necessary, the superficial aponeurosis. I next take a blunt probe, and limit the extent to which it is to penetrate the textures, by holding it between the thumb and fore-finger. I then introduce this to the bottom of my incision, and make it pass on by separating or rather pushing aside, the fibres of the parts beneath. Whenever the instrument has entered the abscess, there is a cessation of resistance, besides which I perceive drops of pus oozing along the sides of the instrument. I then push it upwards and downwards, so as to enlarge the opening, and thus the matter finds a ready exit.

Such is the result of twenty years' experience, and I have never yet met with any accident from hemorrhage; I am therefore inclined to believe that those surgeons, otherwise very able, in whose hands such occurrences have taken place, have either been ignorant of, or neglected, the precautions here laid down.—*Gazette des Hôpitaux.*

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38. *Treatment of Hydrocele by injections of Iodine.*—In our preceding No., p. 508, we noticed the employment by M. Velpeau, of a solution of iodine, as an injection for the cure of hydrocele. He appears, however, to have been anticipated in the use of this remedy, by Mr. J. R. Martin. This last named gentleman in a paper communicated to the Medical and Physical Society of Calcutta, in Jan. 1835, and published in the seventh volume of their Transactions, states that he had up to the time of presenting his paper, treated upwards of ninety cases with the iodine injection, without danger or inconvenience. In only one case did he observe symptoms of a dangerous tendency to supervene; and, as it even tends to confirm the safety of the operation, it may be worthy of mention. "It was that (says Mr. Martin) of a Mahomedan labourer, who went about his occupations

for fourteen days after the operation, and came into the hospital on the fifteenth, with a highly-inflamed and shining scrotum. A few leeches, an evaporating lotion, and a purgative, prevented any accident. Finding the proportions in the injection at first used, to answer so well, (a solution of tincture of iodine, in the proportion of two drachms to six of water, of the ordinary temperature,) I have never altered them; nor need there, perhaps, be any change, even when Europeans are the subjects of operation. In the case of a few robust Mahomedans, who use animal food, but one common urethra-syringe full was injected, and that quantity may be found sufficient in the cases of most Europeans.

"The effects of the iodine solution seem to be immediate, the inflammation arriving at its height in about twenty-four hours, and after that subsiding rapidly. In only two instances has bleeding by leeches been found necessary. Poultices, cold lotions, and purgatives, have generally constituted the treatment; and even these have not been had recourse to in a large proportion of cases.

"Twelve cases of double hydrocele, treated *on both sides at once*, recovered with quite as much ease and expedition as the single cases. In one of these cases a much larger quantity than had before been tried was injected with safety; but if there be any superiority in the iodine injection, as used by me, it consists *in the smallness of the quantity used, and its being retained;* for, in the hands of the best surgeons, infiltration may and does very frequently happen with the port wine solution, owing, as I conceive, to the cremaster muscle, excited by pain, drawing the cavity of the sac off the end of the canula.

"The only caution that appears to me to be necessary in the performance of the injection with iodine, is to see that the syringe is in good order, that the piston fits well; otherwise air will be injected, and the operator deceived as to the quantity of fluid used."

In the *Indian Journal of Medicine* for May, 1836, two cases are also related by Dr. STEWART, successfully treated at the Calcutta General Hospital, with injections of iodine.

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39. *Ligature of the Arteria Innominata.*—This operation has been performed by Mr. LIZARS for aneurism of the subclavian artery. The patient died twenty-one days after the operation. We shall give the details of the case in our next number.

MIDWIFERY.

40. *Administration of the Ergot of Rye in anticipation of Uterine Hemorrhage.*—The *Lancet* of the 15th of April last, contains some observations from Mr. BRADLEY, on his successful administration of the ergot of rye in a case of uterine hemorrhage, immediately succeeding the expulsion of the child, which he concludes by asking whether, when such an unfortunate event is apprehended, it might not be prevented altogether, by giving the ergot immediately before the birth of the child?

In the subsequent No. of the same Journal, (April 22,) T. ABRAHAM, Esq. bears testimony to the successful administration of the remedy under the circumstances indicated, in six cases; and J. KISCH, Esq., states that he has been accustomed for some time past, to exhibit the ergot in similar cases, and with the most happy results. So satisfied is this last practitioner of the powers of the ergot in preventing uterine hemorrhage, that he invariably inquires, he states, whether the patient has been in the habit of flooding after delivery, and if so of using the ergot as suggested by Mr. Bradley.

The utility of this practice is unquestionable; but if it has any novelty on the other side of the Atlantic, as we suppose it has from the stress laid upon it in the communications just noticed, it certainly possesses no claim to such distinction here. This practice is pointed out by Dr. Stearns of New York, in his pamphlet on the Ergot, published upwards of 15 years ago, (see *Philada. Journ. Med. and Phys. Sc.*, Vol. V. p. 44), and was employed many years since, by our venerable and esteemed friend Dr. Dewees, and is distinctly and strongly recommended by him in his valuable system of midwifery.

41. *Pregnancy with Imperforate Uterus.*—A very interesting and remarkable case supposed to be of this description, is recorded in *Guy's Hospital Reports*, Part IV., by Mr. Tweedie. The subject of it, a woman about 24 years of age, had menstruated every three or four weeks since the age of 14. The discharge was always pale and scanty, and continued from two to three days. She never suffered pain at those periods. She was married on the 4th of February, 1836, since which period she had not menstruated. Both before, and subsequent to her marriage, she had enjoyed robust health, and though she has undergone an unusual degree of laborious exertion, has not had a day's ill health. On the 10th of November she noticed a rather copious reddish discharge, which continually drained from her, but without pain. This subsided in a couple of days, when slight pains in the back were felt, which went on till the night of the 14th, when they became so severe and urgent, that she summoned her medical attendant. There was no show as yet. The pains at this time were very urgent and powerful, and on examination there was found "a firm, uniform, globular mass, forcing down into the vagina at every pain (which was of great force) but no irregularity upon its surface could be detected; and a very careful examination of the entire vagina, whose extremity was easily reached at all points, failed in detecting the os uteri." After the lapse of a few hours, during which labour pains persisted, and were of unusual severity, another examination was made. At the upper part of the canal, at each pain, there was forced down a globular body of the bulk of a child's head, and conveying the impression of an entire uterus, without orifice. About the spot where the os uteri should have been, was a minute portion somewhat thinner than the surrounding parts; but the whole was uniformly smooth, and contained no break whatever. On the receding of the mass, in the absence of pain, something like a child's head could be felt within. Dr. Tweedie having satisfied himself at this second examination, that there really was no orifice into the uterus, and the pains continuing of a severe character—and the existence of a living child being proved by the pulsations of the fœtal heart, which were distinctly audible, Dr. Ashwell was called in, who determined to make, without delay, an artificial opening across the spot where the globular body seemed slightly thinner than elsewhere. Accordingly, having placed the patient on her left side, the doctor introduced his left forefinger as a director; upon which he passed up a curved sharp-pointed bistoury with his right hand; and having punctured the spot already fixed upon, he incised forwards towards the bladder, (which was empty) and backwards towards the rectum. At this last incision, a few drachms of dark blood flowed out. The liquor amnii of course escaped; and the head fell upon the artificial opening, which proved to be of the diameter of an inch and a half, or two inches, and about a line in thickness. No lateral incision was made, for fear of wounding the branches of the uterine arteries. The pains abated after the operation, but soon returned, and under the influence of the pains, two rents were effected, one towards the right side, and the other backwards towards the left sacro-iliac synchondrosis. The laceration on the right side did not extend to the reflection of the vagina; that on the posterior part was beyond reach. No gush of blood attended these lacerations. The patient became faint, however, but rallied under the administration of stimulants, and delivery was effected at 11 A. M., Nov. 16. The child was asphyxiated, but revived; the placenta was taken away in half an hour, and the uterus contracted well. Under the use of opiates, effervescing draughts, and subsequently tonics, the patient recovered.

The following is the result of a subsequent examination.

"The vagina is short; its extremity, and every part of it, can be readily reached by the shortest finger; it presents no other peculiarity. There is no cervix uteri. The uterus seems reduced nearly to a normal unimpregnated size. At the extremity of the vagina, there is a puckered irregular orifice, into which the tip of the finger can enter: it is soft, with smooth and thick edges, not perfectly circular in consequence of certain indentations, as if from the drawing together of several small rents. It might be compared to the base of an apple; whilst this part of a normal uterus would better resemble the apex of a pear. Radiating from this central aperture can be distinctly felt three ridges, like lines of adhesion; one passing forwards towards the right ilio pubic junction, traceable nearly to the reflexion of the vagina; one opposite to this, backwards, towards the left sacro-iliac synchondrosis, whose extremity is lost in the reflection of the vagina; and the

third of short extent, about one third of an inch long, passing backwards and to the right."

John North, Esq., in an interesting article in the *London Medical Gazette* of the 10th of June, 1837, expresses some doubts of the real nature of the above case, as there are so many cases on record in which the uterus has been supposed to be imperforate at the time of labour, but, upon subsequent examination, it has been ascertained that the os and cervix uteri, had escaped detection, in consequence of their mal-position. In some of these cases after delivery had been effected by incisions into the uterus, upon the presumption that there was no os uteri, both the os and cervix uteri have been found in their natural situation, and naturally constructed. Mr. North observes, "that there are some circumstances connected with this case, which I confess I cannot comprehend, and which seem to render the assumed fact of the uterus being imperforate scarcely conceivable. The complete closure of the os uteri must of course have taken place after conception, and as far as I know could only result from some disease, some active inflammation of the os or cervix uteri at some period of pregnancy, which in this instance could not have existed, inasmuch as it is stated that the patient "both before and subsequent to her marriage has had robust health." The doubts that have been expressed by the highest obstetrical authorities as to the fact of the absence of the os uteri in many of the cases in which this rare anomaly had been presumed to exist, apply exactly to this case, as far as can be judged from the report given of it. For example, Baudelocque asks,* "A quoi pourroit-on l'attribuer, (l'obturation de l'orifice de la matrice) chez lez femmes ou l'on a cru la rencontrer au moment de l'accouchement? à l'inflammation, sans doute, et à l'altération du col de la matrice. Mais *rien ne fait présumer que chez elles de telles affections aient lieu pendant la grossesse.*" Desormeaux† says, "pour que l'orifice de l'uterus s'oblitère et s'efface pendant la grossesse, *il faudrait* qu'il se fût développé une inflammation assez vive, ce qui ne peut arriver que très rarement; or dans la plupart des cas *on ne parle pas* d'inflammation." Lastly, Velpeau‡ thus states his opinion upon the subject: "Il n'y a evidemment qu'une maladie grave, une inflammation aiguë, qui puisse fermer ainsi le sommet de la matrice entre la fécondation et le terme de l'accouchement. Dans ce cas, les parties sont *necessairement* le siège d'alterations concomitantes *propres à lever tous les doutes. Les signes anamnéstiques auraient d'avance eveillé l'attention.*" In these quotations, I have taken the liberty of italicising the opinions of the distinguished writers which are directly opposed to the closure of the os uteri at the time of labour in a patient who "had not had a day's ill health," and who was always fit for an "unusual degree of laborious exertion." The report of the case states, that "for two or three days before labour came on, she noticed a rather copious reddish discharge that continually drained from her." From whence, if not from the uterus, and through its natural opening, the os uteri, is it probable that this "rather copious discharge" proceeded?

"The whole description of the case," he adds, "is exactly similar to many I have seen, and to still more described by various writers, where the os uteri could not be detected by any ordinary examination, or even by the introduction of the hand, until after many hours' duration of severe labour pains, in consequence of there being so great a degree of anterior obliquity of the uterus as to throw the cervix and os uteri back towards the sacrum, or even above the sacro-vertebral angle. I confess that more than twenty years ago I was much perplexed by two of these cases that occurred to me. In the words of Velpeau, "I dreamt of anomalies, and knew not what to think." In several such cases I have subsequently known other practitioners at fault, and who fancied from "the firm, uniform, globular mass forcing down into the vagina" upon which no orifice could be detected, that there really was no os uteri. By patience, however, and proper management, the efforts of nature, and sometimes, though very rarely, manual assistance, which in such cases is seldom required, the os uteri has been brought into a more favourable position, and the delivery has been safely though very slowly terminated.

"If the pelvis is large, the uterus is in such cases forced into its cavity by re-

* Journal General de Med. t. 52, p. 42. † Dict. de Med. t. 15, p. 190.
‡ Accouchemens, 2nde edit. t. 2. p. 216.

peated and violent pains, which have little or no effect in dilating the os uteri, in consequence of its being out of the line of direction of the expulsive force. The anterior and inferior part of the body of the uterus may even approach the os externum; the head of the child, or any other part that presents, being distinctly felt through the thin and distended uterine parietes. In such instances, either of two mistakes have often been committed. In the first place, it has often been thought that there was no os uteri, because it could not be detected by any ordinary examination with the fingers, however carefully conducted. Secondly, it has as frequently been supposed that the labour would be speedily terminated when it had scarcely commenced, for the head of the child is felt so distinctly, although still covered by the thinly expanded uterus, as to lead to the belief that the os uteri was entirely obliterated, although it was little, if at all, dilated. I will refer to a few authorities for the purpose of corroborating the opinions I have given; of showing how cautious we should be in presuming the uterus is imperforate, and also of shewing how completely the most experienced practitioners have been deceived in their diagnosis of such cases. Denman* says, "Cases have been recorded, in which it was said that the os uteri was perfectly closed, and in which it has not only been proposed with a pair of scissors to make an artificial opening instead of the closed natural one, but the operation has been actually performed." "I am persuaded there has been an error in some of these cases, and that what has been called a perfect closure of the os uteri has not been such, but that the practitioner has, at perhaps an advanced period of the labour, been unable to discover it by reason of its obliquity." Deweest† thus strongly expresses himself: "Within our own knowledge, this case (anterior obliquity of the uterus) has been mistaken for an occlusion of the os uteri, and where, upon consultation, it was determined that the uterus should be cut to make an artificial opening for the fœtus to pass through. They thought themselves justified in this opinion, first, by no os uteri being discoverable by the most diligent search for it; and secondly, by the head being about to engage under the arch of the pubes, covered by the womb. Accordingly, the labia were separated, and the uterine tumour brought into view: an incision was now made by a scalpel through the whole length of the exposed tumour, down to the head of the child. In due course of time the artificial opening was sufficiently dilated to give passage to the child. The woman recovered, and to the disgrace of the accoucheurs who attended her, was delivered *per vias naturales* of several children afterwards, a damning proof that the operation was most wantonly performed." Desormeaux‡ gives evidence to the same effect. Kilian§ remarks, that in cases of supposed closure of the os uteri, the practitioner must be very much upon his guard, and very mistrustful of himself, for the diagnosis is by no means easy. Jörg,‖ in commenting upon "der schiefheit des gebärenden uterus," obliquity of the pregnant uterus, observes, that it often causes great perplexity to the practitioner, who, in consequence of not being able to feel the os uteri after many hours' duration of severe labour pains, *commonly* believes that the uterus is imperforate. Baudelocque,¶ in a very instructive paper on the subject, gives several cases in which mistakes were committed, and needless operations performed by experienced practitioners. Velpeau** says, that he has so frequently known tolerably experienced practitioners affirm that there was no os uteri, when it was merely raised towards the sacro-vertebral angle, that he has no difficulty in referring to this mistake the *majority* of cases of supposed obliteration, and that for beginners the anterior obliquity of the uterus is very embarrassing; "ne trouvant pas de col, ils rèvent des anomalies, ou ne savent que penser." He mentions the following case, which is quite in point. It happened to one of his friends, who had practised three years, "avec distinction dans la capitale." The account was transmitted by letter to Velpeau. I do not presume to offer this as the counterpart of any other case, although, no doubt, its fellow might be found. I will not spoil it by translation. "J'ai passé la nuit près Madame de S.; le travail parait marcher regulièrement; mais je ne trouve point l'orifice; j'ai porté le doigt vers le promontoire, puis du côté des

* Midwifery, 7th edit. by Waller, p. 241.
† System of Midwifery, p. 90.
‡ Dict. de Medecine, t. 15, p. 189.
§ Die Operative Geburtshulfe, Erster Band, 259.
‖ Krankheiten des Weibes, Zweyte Auflage, 690
¶ Journ. Gen. de Med. t. 52, p. 31, et seq.
** Loc. cit. 216 and 229.

fosses iliaques, puis en avant derrière le pubis; partout je suis arrivé jusqu'au cul-de-sac formé par l'extremité supérieure du vagin; mais je n'ai point trouvé le col; qu'ai-je à faire, qu'est-ce que cela veut dire?" Velpeau thus clears up the mystery: "C'est qu'en effet l'orifice était tellement porté en arrière et en haut sur la tumeur, que pour l'atteindre, il fallait recourber le doigt en crochet tout-à-fait en avant."

"The patient whose case is related in the Guy's Hospital Reports was in labour with her first child. It is true that so great a degree of anterior obliquity of the uterus, as to lead to an erroneous diagnosis at the time of labour, occurs much more frequently in women who have borne many children, in consequence of the abdominal parietes having lost their power by frequent distension of supporting the gravid uterus. But it may and does happen occasionally in first labours, either from a natural flaccidity of the abdominal parietes, from the brim of the pelvis being inclined more forward than usual, or from an unusual convexity of the lumbar portion of the spinal column. It is stated in the case I refer to that a careful investigation was made about a month after delivery, and that there was no cervix uteri. In a case related by Lauverjat,* in which he and many other practitioners fancied there was no os uteri, and in which, consequently, an incision was made into the uterus, neither the os nor cervix uteri could be detected for two months after the operation. "L'un et l'autre alors étoient dans l'état le plus naturel."

The doubts expressed by Mr. North, concerning the nature of Mr. Tweedie's case, may be unfounded; but at all events, the facts mentioned by the former, may tend to guard young practitioners against hastily assuming that the uterus is imperforate at the time of labour, and to impose upon their minds the difficulty of the diagnosis in a description of cases which are generally not sufficiently dwelt on by medical teachers.

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42. *Expulsion of the Placenta before the birth of the child.*—Mr. J. H. Bull, has communicated to the *London Medical Gazette*, (Jan. 21, 1837,) an interesting example of this. It occurred in a woman in labour with her sixth child. About two hours before seen by Mr. B., the patient had had alarming hemorrhage, from the effects of which much exhaustion ensued; however, on the recurrence of her labour pains, she had expelled the placenta, and the fœtus still remained in utero. Mr. B. found the cord without pulsation, and a presentation of the arm as high as the axilla. There was powerful uterine action. With some difficulty, Mr. B. turned the child, and delivered the woman forthwith, and she recovered without any subsequent untoward accident.

A similar case is related in the succeeding No. of the *same Journal*, by E. A. Cory, Esq. The subject of this case, was about 38 years of age, and had been in labour some hours before visited by Mr. C. The examination showed the placenta occupying the vagina, being at the same time extra-uterine, and an arm presentation. The liquor amnii had been discharged, and the os uteri fully dilated. The operation of version was immediately attempted to be performed; but so *firmly was the fœtal body embraced by the uterus*, that it would have been impossible to have effected it without risking the infliction of severe injury upon that organ. Mr. C.,—believing "that the woman ought to be delivered as soon as it could be accomplished with safety, as it was evident that we were indebted for the absence of hemorrhage to the unusual contractile power exerted by the uterus, and that any sudden or gradual diminution of its contractility, although it might facilitate the operation of turning, yet would in all probability give rise to copious hemorrhage, highly dangerous to the life of the patient; and as the want of pulsation in the umbilical cord demonstrated that the fœtus no longer possessed vitality,"—eviscerated the chest and abdomen. On the third day after the operation, some symptoms of uterine inflammation came on, which, however, yielded to appropriate treatment, and the patient perfectly recovered.

The most remarkable fact in the case is that there was no more hemorrhage than in ordinary parturition; a circumstance attributable to the powerful contraction of the uterus on the fœtal body.

The *Jamaica Physical Journal* for September and October 1836, contains an

* Neue Methode den Kayserchnitt zu machen, 188. Qnoted by Baudelocque, loc. cit. p. 45.

account of a third case similar to the preceding, communicated by Mr. John L. Reed. The subject of this case was a negro woman 24 years of age, who had always enjoyed good health, and had previously had three children. Her first labour had been severe; the other two natural. When seen by Mr. Reed, in her present labour, the old woman informed him, "that the after birth had come away, and one of the arms had come down, and she had returned it." On examination, Mr. R. felt the placenta lying between the patient's legs, and the umbilicus attached. He followed it up the vagina, where he found the right arm, elbow and fore-arm occupying it. At the mouth of the uterus he felt the right shoulder and *trachea!* The parts were not fully dilated; her pains had been trifling; the introduction of Mr. R.'s fingers excited them slightly, and on their accession there was a gush of blood, though what was remarkable the hemorrhage was not profuse. On passing his finger a little higher up, Mr. R. felt "the larnyx and chin, the cord being twisted twice round the neck—the head flexed under the back! the belly looking upwards, and the cord unruptured throughout its whole attachment and connected with the child."

Mr. R. states that not being able to deliver by turning, owing to the condition of the parts, and the danger from hemorrhage not being apparent, he determined to place the head in its proper position, and deliver with forceps. Some time was lost in procuring these instruments, at the expiration of which, on examination, the parts were found more dilated, and a greater degree of hemorrhage; "the occiput had slipped over the pubic arch," says Mr. R., "and I therefore determined to deliver some way or other—and that immediately, and in which I succeeded by turning. I found the feet curiously doubled behind the back, over the hips; I easily extricated them, and gradually brought them down with my right hand, while with my left, externally I pushed the cranium upwards, and in this movement reversed the belly and back, consequently placing the face towards the sacrum. Having delivered the body, it was arrested in its progress by the hands and arms, which were delivered in turn—first, the left or under one, and then the right or upper one. The head then became fixed in the sacro pubic diameter; I passed the two fore-fingers of my right hand along the neck, and introduced them into the child's mouth, by which means I easily unlocked the head and perfected the delivery. The child, placenta, and umbilical cord all entire! The uterus contracted a little, and there was not much flooding. The child was very large, and the head particularly so. The patient being relieved, and feeling a desire to sleep, I left her. She was to all appearance quiet and easy; in about three hours after I saw her, and found her slumbering, consequently I did not disturb her. Again I visited her in about two hours, and I then discovered great vascular excitement, with increased inflammatory action, evolving the whole of the peritoneum—the abdomen tumid and painful in the extreme; notwithstanding the most energetic measures, such as venesection, enemata, blisters, &c. &c. she died exactly forty-four hours after delivery. The means adopted did at one time lead me to expect a different result, but the relief was but temporary."

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43. *Cæsarean operation performed four times with success in the same woman.*—In our No. for August, 1835, p. 526, et seq., there is the narrative of a case in which the cæsarean operation had been three times successfully performed in the same individual. The subject of this same case, Anna Margaretta Adametz, whose name deserves to be put on record, has a fourth time been delivered by the same operation. The following history of this last pregnancy and operation, we extract from a paper by Dr. Charlton, in the *Edinburg Med. and Surg. Journal*, for April, 1837.

Adametz became pregnant for the fourth time, and was admitted into the general lying-in hospital at Kiel, in the beginning of April, 1836. Her abdomen was pendulous, as on the preceding pregnancies, and so distended, that, for several weeks before parturition, she was affected with pains exactly resembling labour-pains. These pains, however, did not dilate the *os uteri*, the aperture of which was so small that it seemed rather like a perforation made with some sharp-pointed instrument. Her pregnancy passed over without any unfavourable symptoms, except that, towards the end of it, she was affected with a severe cough, which was then prevalent in the country. This, however, ceased before the labour-pains came on, which was on the 24th of June, 1836. By these the *os uteri*

was soon dilated to such an extent that the membranes could be felt protruding in the vagina. After this the pains became much less strong, nor had they dilated the *os uteri* any more on the 26th at 2 P. M. But from this time the pains became so urgent, that by 10 P. M. two fingers could be introduced into the *os uteri*. The waters came away on the following night at half-past one, and were followed by a prolapsus of the cord, the veins of which were greatly swelled, and its pulsations, which at first were very frequent, gradually became slower and less strong. Every thing having been long previously prepared for the operation, it was performed on the 27th of June by Dr. Michaelis. The bowels having been emptied by an enema, and the urine drawn off with the catheter, the patient was placed on a table covered with a mattrass, and merely held by the assistants, who were disposed in the same manner as in the previous operations.

The incision was made on the left side of the abdomen, and thence extended five inches towards the median line, passing through the cicatrix of the third operation, as the uterus here seemed to be most closely adherent to the parietes of the abdomen. Two strokes of the scalpel divided the abdominal parietes with the peritoneum, and the uterus was then cut through by repeated slices. The wound in the uterus was then enlarged with the blunt-ended bistoury, to the same extent as that in the parietes of the abdomen. A remarkable appearance now presented itself. The uterus every where adhered completely to the parietes of the abdomen, so that the cavity of the abdomen was not opened at all, nor was a single convolution of intestine visible during the whole operation. The placenta now appeared in the middle of the wound, and being pushed aside, the operator inserted his hand into the cavity of the uterus, and seizing the left foot of the child, extracted first that limb and then the other. The trunk and upper extremities easily followed, but the head was retained for some time by the contraction of the uterus. The child, a girl, was affected with the same spasms as were noticed in the second instance, but they soon disappeared on applying cold water to the chest. The placenta followed soon after, and came away easily, but the membranes were with difficulty separated from the right side of the uterus. The wound, which was now diminished to three inches and a half in length, was united by means of three sutures, and the intervening spaces were held together by long strips of adhesive plaster, passed under the body and crossed in front. An aperture, however, was left at the inferior part of the wound, into which a piece of lint was inserted to permit of a free discharge. The whole wound was then covered with lint, and the abdomen secured by a binder fitted close to the body. The patient, who had scarcely complained during the whole operation, having taken ten drops of laudanum, was carefully placed in bed by the operator himself. The following short report of her recovery is extracted from the books of the hospital.

27th June. After pains came on directly after the operation, and in order to procure sleep for the patient, she took five drops of laudanum and tincture of cinnamon. Pulse 110; urine twice passed naturally; tongue moist and clean; great thirst, and slight inclination to vomit; skin moist and warm; great redness of the face; complains of head-ache, but is otherwise in excellent spirits. During the night between the 27th and 28th the pains of the abdomen increased to such a degree as entirely to prevent sleep, and the belly was at the same time extremely painful and tender on pressure. In consequence of this, the bands of adhesive plaster were cut through, as they compressed the abdomen, which, in addition to a few drops of tincture of opium, greatly mitigated the pains. The pulse was 150, small and weak; great thirst, and cold perspiration.

28th. On the whole, the patient feels very well; the lochial discharge flows freely; but the bowels are slow, she has had no passage from enema, on account of which an oleaginous mixture was given to her, to which was added the sulphate of potash.

29th. The pains of the belly had continued during the night, though the patient took a considerable quantity of tincture of opium, and during the day became much more intense than is usual among puerperal females. The pulse was 140, hard and small; the face pale; the bowels costive, and the patient had frequent retching. As these symptoms indicated incipient inflammation, twelve leeches were applied to the epigastrium, and the patient took two grains of calomel every hour.

30th. Under the use of these remedies the inflammatory symptoms disappeared, but she still complained of colicky pains in the right hypochondrium, and as she had had eleven copious and feculent stools since the operation, she took twelve drops of tincture of opium.

July 1st. Pain of abdomen still complained of; six stools. Continue the opium.

With regard to the state of the wound, the sutures have been cut away, as the upper part has already united, but the skin in the lower part having been cut by the sutures it still remains open. The wound of the parietes does not correspond with that of the uterus, as they are drawn towards the left side.

July 2nd. As the pain of right hypochondrium continued to increase, three leeches were applied to the part, and afterwards a blister, by which they were considerably mitigated. During the following days the strength of the patient gradually decreased from incessant diarrhœa, which was, however, at length put a stop to, though with considerable difficulty, by opiate enemata. Nutritious diet was given her without fear of inflammation, and the patient so rapidly recovered, that, by the end of July, she was almost completely restored to health. A fistulous opening, however, remained, as on the former occasions, which was not healed when she left the hospital with her fine healthy child on the 25th of August last.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

44. *Fracture of the Skull and Rupture of the longitudinal Sinus during Natural Labour.* By Dr. Michaelis, of Kiel.—A woman, aged thirty-six, was taken in labour with her first child on the 27th February, 1836. After slight pains for thirty-six hours, the waters came away at four P. M. of the 29th. At this time the midwife found the os uteri open, but full and hard. At eight o'clock on the following morning, Dr. M. was called, and found the patient, as is common in Germany, on the labour-chair, with sufficient but not severe labour pains, the vagina extremely tender, dry, and hot, and the perineum tense, and the child's head completely in the pelvis. The woman was put into bed, and warm cataplasms applied to the genitals; and in two hours things were completely changed, the parts being now only moderately swelled, lubricated, and not painful, while the head advanced under good pains, only apparently strongly jammed against the immoveable coccyx. At eleven o'clock the child was born. Examination immediately after the child was born detected no deformity of the pelvis, the diameter of the outlet being certainly not less than three inches and three quarters. The child breathed both during birth and immediately after, but then died.

The head was much disfigured, and, on examining it carefully, the following appearances were found: 1. The frontal bones were normal as to structure and uninjured, but so flattened that the frontal and parietal portions lay nearly in the same place. 2. The fontanelle and anterior two-thirds of the sagittal suture projected high up, and the sagittal borders of the parietal bones were thrown open and partook of the displacement. 3. The left parietal bone was not otherwise affected, and, with the exception of a few points which were very thin, it was well-formed. 4. In the posterior third part of the sagittal suture, where the parietal bones were firm and well formed, and the suture only two lines in width, were seen small livid portions of the longitudinal sinus forced between the bones. 5. The occipital bone was flattened and forced deep under the parietal bones, but not otherwise injured. 6. The right parietal bone, which during birth had been directed towards the promontory of the sacrum, was found covered anteriorly and above with effused blood, and, on removal of the periosteum, was found fractured in five places. These fractures or fissures were as follows: *a*, a small fissure near the *tuber ossis frontis*, four lines long; *b*, a much larger one running from the fontanelle through the centre of the parietal bone, very nearly two inches in length; *c. d.* two small fissures half an inch in length, near the sagittal suture. There were also four small openings, from incomplete ossification, in the same bone, which was throughout very thin.

On opening the skull, there was found no extravasation beneath the fissures,

but posteriorly under the sagittal suture the longitudinal sinus was found ruptured, and there was an extensive coagulum on the cerebrum on both sides, under the dura mater, and on the tentorium cerebelli.

The peculiarity of this case is, the occurrence of so extensive injury during natural labour and with a well-formed pelvis; and is explained by the natural weakness of the bone and theun favourable position of the head during birth.—*B. and F. Med. Rev.* and *Zeitschrift für die gesammte Medicin.* B. iii. H. 4.

45. *Case of Poisoning by Liquor Potassæ.* By Darto-Massart, Pharmacien at Mons.—Mr. D., aged thirty-five, drank, instead of wine, a quantity of water of potash. Soon perceiving the error, he complained of severe pains in the epigastric region and nausea, and, in the course of a quarter of an hour, of general coldness; face pale, presenting the appearance of intense suffering. A solution of tartaric acid was administered, (four drachms to the pint of water,) and given at short intervals. Sinapisms were applied to the feet, and emollient fomentations to the abdomen, with frequent enemas. In a short time the symptoms abated, and he began to grow warm; a slight perspiration continued for two hours, followed by a black stool. Two days after, the tongue and back part of the mouth threw off a very thick and tough membrane. The patient took small quantities of broth, and shortly recovered his health.—*Gazette Médicale de Paris*, November, 1836.

MEDICAL STATISTICS.

46. *The inapplicability of Statistics to the Practice of Medicine.*—This question has been recently brought before the Royal Academy of Medicine at Paris, and been very elaborately and fully examined. The following paper read by Mr. Double, in the discussion, excited considerable attention, and we shall lay it before our readers, as the subject is one of great importance. For ourselves we have already expressed our opinions on the subject (see our No. for August 1836, p. 489,) and need only add that it is our continued conviction that until some new problem in transcendental mathematics, shall be devised, the numerical method can never serve to guide us to a positive method of treating individual cases of disease. At the same time we disclaim all wish to invalidate the general usefulness of statistics in medicine. But we will not detain our readers further from the observations of Mr. Double.

"The science of statistics is in these days one of the most fashionable; and in the ardour of their zeal its disciples have applied it indiscriminately to medicine. They have attempted to substitute mathematical for logical analysis—to make arithmetic take the place of induction—and calculation that of reason. Let us, then, consider what some expect from statistics applied to medical practice. In mathematical analysis, the probability of future events is calculated from the observation of preceding facts, but always under the rules of the universal laws of large numbers, and without any individual application.

"In medical statistics, on the other hand, the numerical method is expected to determine from the observation of preceding facts, and according to their number, the best method of treatment in each individual case which may occur. This, however, is quite impossible; and I may remark, that were it ever effected, medicine would cease to be either a science, an art, or even a profession: it would become as mechanical as the employment of the shoemaker.

"What is called in geometry the universal law of large numbers, is the rule and the foundation of all calculations of probabilities. One of the conditions of this law is, that the causes of the events calculated, though some are constant and others variable, yet can in no sense be said to vary progressively. From this law it results, that all the differences and irregularities which balance each other disappear in the quotient: and in this way the calculations of lotteries, of maritime insurances, &c. are made.

"But this is evidently not applicable to medicine: neither our successes nor our failures balance themselves in large numbers, as in the case of marine insurances. Each of our problems embraces but one individual; and besides, diseases always

have their prevailing character, varying progressively according to an infinite variety of causes.

"M. Poisson, in his new work on the Calculation of Verdicts given by Juries, writes thus:—"In most questions of eventuality, the *à priori* determination of the chances of events is impossible, and it is only from observed results that we are able to calculate them. Thus we cannot *à priori*, calculate the chance of a vessel being lost in a long voyage, but we must compare the number of losses with that of voyages: when the number is large, the result is pretty constant, at least in each sea and in each nation; but if the calculation be founded on a small number of facts, there can be no certainty in the reckoner's results; if it be founded on a large number, the results are almost sure."

"Besides this, it must be remarked that mathematicians themselves are not all agreed as to the value of mathematical analysis applied to the calculation of probabilities.

"The calculation of probabilities, from its very nature and professed scope, only makes approaches to the truth; yet its results have often some degree of apparent certainty. Nevertheless, the facts on which such calculations are founded are so vague, uncertain, and variable, that the results are not to be depended on, and sometimes the most inconceivable mistakes take place.

"The numerical method at once supposes and sanctions one of the greatest errors in therapeutics,—namely, the adoption of absolute and exclusive measures. The celebrated problem of Pickairn—"For a given disease to find the remedy"—is only reasonable, when understood in this way—"For a given indication, to find the best method of fulfilling it." Each individual malady is not a simple phenomenon that can be represented by unity; it is not certain and fixed, but constantly varying. Thus the pneumony of to-day is not the pneumony of yesterday, and the pneumony of Peter is not that of Paul.

"As an illustration, consider how disappointed the young physician is in passing from a lecture or a didactic work to the bed-side of the patient; and this because he is transferred from disease in the abstract to its reality. Take any large collection of cases: consider the epidemics of Hippocrates, the constitutions of Baillou, the letters of Morgagni, the consultations of Hoffmann, the *ratio medendi* of Stork, &c.—how many cases will you find alike? The universally admitted law of idiosyncrasy and of individuality, so infinitely variable, cannot be included in any calculation of probabilities. Let us first examine how the numerical method applies to a man in a state of health. Let us take two hundred healthy adults, of the same sex, age, profession, and condition: how many shall we find in exactly the same condition, so that we may say, "this health and that health make two?" Or let us take their powers of intellect or of digestion: how many are alike in their intellect? how many have identical digestive powers? When the different series of uniform intellects and digestive powers have been made out, a separate and universal method of treatment for each series has to be invented; and how will you succeed in this?

"Let us again suppose that there are in childbed, under the same circumstances, say a thousand women, and that the news of some grievous calamity is brought them; five of them may become deranged, and the other 995 not have their reason affected. In calculating probabilities, it is an easy matter to determine this. But will any physician be therefore satisfied that he may announce a piece of bad news to a lying-in woman without danger? Or let a thousand men, in a state of violent perspiration, drink a given quantity of ice-cold water: ten are seized with pneumony, five with gastritis, and five with dysentery, while all the rest remain in perfect health.

"But from theoretical grounds let us come to facts, and take typhoid fever, of which term, by the by, I do not at all approve; for, under it, gastric affections, bilious fever, entero-mesenteric fever, mucous fever, catarrhal fever, &c. are confounded. It was this that led to that inextricable chaos of difficulties in your late discussion on that subject. The mistake was, that by the name of typhoid fever was designated a certain peculiar morbid state, which may be a dangerous termination, or a troublesome complication, of almost all other diseases. Thus pneumonia, apoplexy, peritonitis, uterine phlebitis, phthisis in adults, surgical operations, &c. occasionally terminate with typhoid symptoms.

"Still more so is this the case with bilious, catarrhal, and inflammatory fevers,

which, according to my experience, all commence like typhoid fevers; and, though I have seen a great many cases, I have never seen typhus come on primarily, but always preceded by nervous or febrile reaction, such as biliousness, an affection of the stomach, &c.

"And here I may remark, that I think it one evil of the present state of medicine, that our experience is too exclusively that of hospitals. We thus only see one condition of life, and the disease already established, and can seldom retain the patient long enough to see all the steps by which health is gradually re-established. It is in these patients, in whom we never see the commencement of the disease, that we meet with the most marked cases of typhoid fever.

"Well, then, in this same typhoid fever, can any unique, absolute, and exclusive treatment be assigned? If the practice of medicine did not already do so, sound logic would give a negative reply. When we consider the infinite modifications of circumstances, the degree of strength, the state of the nervous system, the moral condition, the idiosyncrasy, the age, the sex, the country of the patient, the nature, period, and prevailing character of the disease, &c. &c., we see how impossible it is that any employment of figures, any calculation, however nicely balanced, should lead to any uniform method of treatment. I have in another place shewn, that, in the opinion of Lacroix, Laplace, and Condorcet, reasoning, logic, and induction, are in medicine not less useful, or less certain, than numerical calculations: even in geometry, in almost all points, calculation has hitherto only proved what reasoning had already suspected. "Theory," said Laplace, "is only common sense applied to calculation." The different influences modifying disease, to some of which I have alluded, are no less numerous, for example, than the letters of the alphabet. Yet, consider the richness and variety of language formed out of these letters: by that you may form an idea of the variety of the circumstances attending disease; or, to push the analogy still farther, there are in the alphabet certain elements of more importance than the rest; in like manner disease has, so to speak, its vowels and its consonants.

"For myself I must say, that the more I see of disease, the more does each case appear to me a new and a separate problem. When they see a new case, how many physicians can put down in figures the number of cases exactly similar which they have treated? I therefore think, that the useful results to be obtained from statistical calculations, in the treatment of typhoid fever, must be reduced to this: that we may usefully register the relative indications in cases within our own practice, and under given circumstances, of blood-letting, evacuants, tonics, &c. But the numerical method can never point out the treatment to be adopted in any one given case.

"But the numericalists, finding the subject of typhoid fever difficult ground on which to fight, have taken the case of intermittents. With regard to intermittent fevers, however, we must not judge by those of the capital: first, because cases are rare in this country; and, secondly, because they yield easily under almost any means that are employed. It is in countries to the south that they are violent; and I may remark, in passing, that this is another instance of the complexity of disease in general.

"But even in this country I have cured intermittents by the most different modes of treatment!—by local and general bleeding, by emetics, by purgatives, &c.; and if we examine the history of medicine, which, when well understood, is the best instruction that a physician can receive, we shall find that intermittent fevers, whatever may be their type, vary constantly in nature and in character, and yield to many different modes of treatment.

"From all this it by no means follows that there are not in medicine certain general views, and fixed principles; on the contrary, in the treatment of every case we act upon them. They are precisely the views taught by the beautiful doctrine of indications, which can alone guide us in the treatment of fevers, and of diseases in general. The doctrine, then, to which I have been led by my own experience, and by the history of medicine, and which I have always held and advocated, is that of *eclectism*.

"Its methods are analysis and induction; its aim, the wide and complete interpretation of facts; its result, the understanding of indications, with the knowledge of the best modes of fulfilling them. In short, it is the logic of facts, enlightened by the logic of thought. Yet to many this method is unpalatable: some are too

impatient, some too indifferent; while others are incapable of pursuing continued trains of reflection. I am led, then, by my long and unwearied labours on this subject, to the following results:—

"1. Individuality is an invariable element in pathology. A disease is not a simple, fixed, and uniform entity; it is a series of varied and changing actions; therefore every exclusive theory is absurd in pathology, and every absolute method repugnant to therapeutics.

"2. Numerical and statistical calculations, open to many sources of fallacy, are in no degree applicable to therapeutics.

"3. The only methods admissible in practical medicine are those of analysis, logic, and induction."—*Gaz. Médicale*, and *Lond. Med. Gaz.* for May 13, 1837.

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47. *Bastardy in England and Wales.*—It appears from the population returns (1831), that 20039 bastards (10147 males, 9892 females) were born in England and Wales in the year 1830. In the same year 382060 baptisms were registered; illegitimate children therefore formed 1 in 19 of the children baptised; and if the number of *unmarried* women at a child-bearing age be compared with the number *married*, it will be immediately perceived that for their numbers they contribute a considerable share to the population of the country. The actual population of the country (14270000) contains—if their lives are as long as other people's, and the proportions have continued the same—751000 persons illegitimately born.—*British Annals of Medicine*, Sept. 1, 1837.

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48. *Bastardy in Prussia.*—We have just seen an elaborate statistical return of bastardy in Prussia for the 15 years, 1820 to 1834. The greatest number of illegitimate children are born in Berlin; they amount to 1435 annually, the population having been 250000. For 1000 inhabitants 5·74 bastards were annually born. In the same period there were to 100000 inhabitants, on an average, 20354 females aged 14 and upwards; 1 in 35 had a natural child; in the regency of Munster, in Westphalia, there were, in the same number of inhabitants, 17720 females above 14, and 1 bastard to 278 of their number. In Berlin, 1834, there were only 13·34 married females in 1000 inhabitants. Of 1000 inhabitants in the mountains of Silesia (1834) there were 196·37 married females in 1000 inhabitants, and 3·82 bastards were born annually (1820–34).

MORTALITY OF ILLEGITIMATE CHILDREN IN PRUSSIA.

In Prussia, 1820-31.	Total Born.	Still-born.	Still-born per 100.	Died in the year of 100 born alive.
Legitimate children,	7066525	230546	3·27	17·12
Illegitimate children,	526492	26522	5·04	25·28

This shows that bastards born alive are exposed to greater dangers than legitimate children; 25 per cent. of the former class die in the first year, while but 17 out of 100 children born in wedlock die in the same time. The illegitimate fœtus incurs still greater dangers in utero; 54 per cent. more perish before birth than among the class of legitimate children.

Of the children born alive in Prussia 7·3 per cent. are bastards; of the children born alive in England only 5·3 per cent. are illegitimate. In Wales the proportion is higher than in Prussia.—*Ibid.*

MISCELLANEOUS.

49. *Account of a man who submitted to be buried alive for a month, at Jaisulmer, and was dug out alive at the expiration of that period.*—The following extraordinary narrative by H. M. Twedell, Esq., published in a recent No. of the India *Journal of Medical and Physical Science*, we consider worthy a place in our pages, though we are not aware of what degree of credit is to be attached to it.

"I have just witnessed a singular circumstance, of which I had heard during our stay at this place, but said nothing about it before, the time for its accomplishment not being completed: this morning, however, the full month was over, and a man who had been buried all that time, on the bank of a tank near our camp, was dug

out alive, in the presence of *Esur Lal*, one of the Ministers of the Muharàwul, of Jaisulmer, on whose account this singular individual was voluntarily entered a month ago. He is a youngish man, about 30 years of age, and his native village is within five kos of Kurnaul; but he generally travels about the country to Ajmeer, Kotah, Endor, &c. and allows himself to be buried for weeks or months, by any person who will pay him handsomely for the same. In the present instance the Ràwul put this singular body in requisition, under the hope of obtaining an heir to his throne, and whether the remedy is efficacious or not, it certainly deserves to be known.

The man is said, by long practice, to have acquired the art of holding his breath by shutting the mouth, and stopping the interior opening of the nostrils with the tongue; he also abstains from solid food for some days previous to his interment, so that he may not be inconvenienced by the contents of his stomach, while put up in his narrow grave; and moreover, he is sewn up in a bag of cloth, and the cell is lined with masonry, and floored with cloth, that the white ants and other insects may not easily be able to molest him. The place in which he was buried, at Jaisulmer, is a small building, about 12 feet by 8 feet, built of stone; and in the floor was a hole about three feet long, two and a half feet wide, and the same depth, or perhaps a yard deep, in which he was placed in a sitting posture, sewed up in his shroud, with his feet* turned inwards towards the stomach, and his hands also pointed inwards towards the chest. Two heavy slabs of stone, five or six feet long, several inches thick, and broad enough to cover the mouth of the grave, so that he could not escape, were then placed over him, and I believe a little earth was plastered over the whole, so as to make the surface of the grave smooth and compact. The door of the house was also built up, and people placed outside, that no tricks might be played, nor deception practised. At the expiration of a full month, that is to say, this morning, the walling up of the door was broken, and the buried man dug out of the grave; Trevelyan's moonshee only running there in time to see the ripping open of the bag in which the man had been inclosed. He was taken out in a perfectly senseless state, his eyes closed, his hands cramped and powerless; his stomach shrunk very much; and his teeth jammed so fast together, that they were forced to open his mouth with an iron instrument to pour a little water down his throat. He gradually recovered his senses, and the use of his limbs, and when he went to see him, was sitting up, supported by two men, and conversed with us in a low, gentle tone of voice, saying, "that we might bury him again for a twelvemonth if we pleased." He told Major Spiers, at Ajmeer, of his powers, and was laughed at as an impostor; but Cornet Macnaghten put his abstinence to the test at Pokhur, by suspending him for thirteen days, shut up in a wooden chest, which, he says, is better than being buried under ground, because the box, when hung from the ceiling, is open to inspection, on all sides, and the white ants, &c. can be easier prevented from getting at his body, while he thus remains in a state of insensibility. His powers of abstinence must be wonderful to enable him to do without food for so long a time, nor does his hair grow during the time he remains buried.

I really believe that there is no imposture in the case, and that the whole proceeding is actually conducted in the way mentioned above.

This letter was written by Lieut. A. H. Boileau, of the Engineers, first assistant Great Trigonometrical survey, who at that time was employed in the survey of that part of the country. The gentlemen, whose names are mentioned in the letter, are Capt. Trevelyan, of the Bombay Artillery, and Cornet, now Lieut. Macnaghten, of the 5th regiment light cavalry, assistant to the agent to the Governor-General in Rajpootanah.

Some other information I obtained in the course of conversation with Lieut. Boileau, and which I noted down. Lieut. Boileau was unacquainted with the man's name or cast; he believed that he had taken up the life of a Fukeer; he understood that the man had been buried six or seven times, but whether for any period longer than a month he knew not; he did not hear how the man discovered his powers, or when he commenced to practise them. Lieutenant Boileau arrived at Jaisulmer, after the interment, and saw the place, described in his letter, in which the man was buried. There was a guard of four or five Chuprasees, in

* Query feet, the word as used in that part of India, is *gor*, and means foot or leg.

the employ of the maharàwul, as he understood, who were on the watch, to prevent any interference or imposition. The process of burying, and of disinterring was conducted in the presence of Esur Loll, one of the ministers of muharàwul. The day fixed for the interment was known to Lieut. Boileau, but not the exact hour. Captain Trevelyan's moonshee, who had set forth to give intelligence when operations were to be commenced, arrived only in time to see the people ripping open the cloth, or shroud, in which he had been inclosed. The moonshee immediately started off to a man to inform his master, and Lieut. Boileau, who were in their tents, at a distance of about three furlongs.

They waited a few seconds to apprise Lieut. Mackeson, of the 14th regiment, N. I. British Agent for the navigation of the Indus (who had declined to accompany them,) and repaired to the spot as quickly as possible. Perhaps a quarter of an hour had elapsed, since the opening of the grave, before they arrived. The people had thrown a clean cloth over the man; two of them supported him; he presented an appearance of extreme emaciation and debility; but weak as he was his spirit was good, and his confidence in his powers unabated, as in answer to Lieut. Boileau's and Captain Trevelyan's inquiries, he said *"that we might bury him again for a twelvemonth if we pleased."* Lieut. Boileau examined, and measured with his walking stick, the grave in the floor of the chamber in which the man had been buried, and also the two slabs of stone which had been used to cover the mouth of the grave. For seven or eight days preceding the burial, the man lived entirely upon milk, regulating the quantity so as to sustain life, whilst nothing remained to give employment to the excretory organs. In that state he was buried. He confesses to have great dread of the white ants. Several folds of cloth were spread on the bottom of the grave, to protect him from their attacks. On taking nourishment after his release, he is said to be in a state of anxiety, until he has ascertained that the powers of his stomach and intestines are not impaired. Lieut. Boileau saw nothing more of the man; he understood that he regained his strength, and was for some time in attendance at the durbar of the Muharàwul, in the hope of receiving his promised reward, and that tired of waiting until the purse strings of the patron were loosened, he had stolen a camel and decamped.

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50. *Lithotrity in Russia.*—M. Heurteloup, by invitation of the Emperor of Russia, visited St. Petersburg in May last, and gave public demonstrations of the operation of lithotrity on cases of stone, which had been collected in the hospital for the purpose of illustration, and the Russian surgeons were thus instructed in the several stages of the process. In the middle of June, Dr. H. proceeded by request of the Emperor, to Moscow, where 34 cases of stone were collected by the authorities, and where the provincial surgeons were marshalled to receive the expected tuition.—*Lancet*, August 5, 1837.

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51. *Animal Flower.*—The inhabitants of St. Lucia have discovered a most singular plant. In a cavern of that isle, near the sea, is a large basin of water, which is brackish, and its bottom composed of rocks; from these proceed beautiful flowers of a bright shining colour, and nearly resembling our marigolds. These seeming flowers, on the approach of a hand, retire, like the sulid, out of sight. On examining their substance closely, there appears in the middle of the disk four brown filaments resembling spiders' legs. These legs have pincers to seize their prey, and upon seizing it, the yellow petals immediately close. The body of the animal is about the size of a raven's bill.—*Lit. Chron.*

AMERICAN INTELLIGENCE.

Case of Hepatic Abscess opening into the right lung, with a post-mortem dissection. By JOSEPH PEACE, M. D.—Abscess of the internal structure of the liver may be regarded, both in this country and in Europe, as rather a rare termination of hepatitis. Louis, in his "Mémoires Anatomico-pathologiques," found but five examples of abscess of the liver in four hundred and thirty subjects, all the organs of which he attentively examined. A full detail of these cases is recorded with their different complications, no one of which, however, was found to communicate with the lungs. Reference to the medical periodicals of late years has not enabled me to find recorded, by an American physician, a single case of hepatic abscess opening into the lung. Professor Horner, whose anatomical and pathological dissections have been so extensive, has never met with a case; and I believe the Wistar Museum, so rich in rare preparations of morbid anatomy, is without a specimen of this kind.

Twining, in his work on Diseases of Bengal, remarks, that the proportion of patients who recover after the formation of extensive abscess of the liver, is "lamentably small." He has recorded with the autopsies, two interesting cases of hepatic abscess opening into the lung, both of which proved fatal. Dr. Philips Wilson, in speaking of abscess bursting into the cavity of the thorax, remarks, "there is, perhaps, no instance of recovery after such an accident." This observation has been contradicted by several cases recorded by European pathologists, of recovery after such a result. There is reason, however, to suspect that some of these cases may have been mistaken for obscure pneumonic abscess or purulent bronchial expectoration coexisting with hepatic inflammation or abscess, without any direct communication.

A case somewhat similar to the present, occurred in the Pennsylvania Hospital more than a year since, the diagnosis of which was so equivocal as to have led to great doubts as to the source of the copious expectoration, which shortly preceded the death of the patient. The autopsy, (which it is to be regretted has not been published,) revealed an abscess of the liver, communicating with the right lung.

Mrs. S. W. C., æt. 48, had been confined to bed two weeks previously to my first visiting her; had laboured under symptoms of fever, attended with occasional chills; furred tongue; head-ache; sick stomach; hot skin and pain in right side; had been purged freely and taken two emetics, which produced copious bilious vomiting. Quinine had been ineffectually given to check the chills.

August 23d, 1837. I was consulted and found, in addition to the above, other symptoms indicating hepatic disorder. The pulse was full without tension, and 100. The adnata of the eye, and skin of face and breast tinged with a yellowish hue; bowels costive; taste bitter. Pressure over the right region of the liver increased the dull pain frequently experienced there; a tormenting pain was felt, particularly at night, in the right shoulder; no cough; no obvious enlargement over the region of the liver. Ordered a mercurial purge; nitrous powders. Diet, barley-water.

From this period the patient was treated for remittent fever, implicating seriously the functions of the liver. In the progress of the disease she suffered from chills, followed by profuse sweats, irritable stomach, &c., which much

exhausted her muscular strength. Among other remedies, she was leeched and blistered over the epigastric and right hypochondriac regions. The sulphat quiniæ was endermically applied with the effect of arresting the chills. Small doses of calomel, ipecac. and opium produced slight ptyalism, and with it an apparent amendment of the febrile symptoms; her tongue now became moist and cleaner; pulse less frequent; skin less jaundiced; alvine evacuations more healthy. She was now able to take an infusion of cherry bark and chicken broth. This favourable change was of but short duration, the febrile symptoms were now exacerbated towards the evenings; tongue became dry and coated with a dark brownish fur; and she experienced a recurrence of very severe chills. She was now again restricted to gum arabic mucilage, and was put under alternative doses of calomel and ipecac.; her pulse became more frequent, 120 to 130; and the fever assumed the hectic character. She complained much of flatulence, sick stomach, and a very severe pain in the right iliac region, which frequently came on suddenly, and as suddenly left her. Sinapisms, warm applications, &c., were applied without affording material relief. Her skin became dry and harsh; no night sweats; very restless at night.

September 23*d*. On my visit in the afternoon I was informed by the daughter that her mother had been seized with a rattling in her throat, which was immediately followed by a suffocating cough and very copious expectoration, which lasted continuously for nearly an hour. The sputa presented a thin, purulent, and straw coloured appearance; and so offensive was its odour as to produce nausea, both in the patient and her attendant. The expectoration entirely ceased about 4 o'clock, P. M., and did not return until next morning at 11, and again ceased in a half hour.

25*th*. Cough returned at 2, P. M.; expectoration much less offensive and copious, and partakes more of the muco-purulent character.

26*th*. No cough or expectoration all day; can take a deep inspiration without cough or pain.

27*th*. Cough returned; sputa contains apparently shreds of lymph.

28*th*. Entertaining but little doubt as to the diagnosis, and considering it an interesting case of hepatic abscess opening into the lung, I invited Drs. Pepper and E. Peace, to examine it with me. The patient expressed herself as feeling more comfortable since her expectoration. Ordered essence of beef and wine whey to be freely given.

29*th*. No material change; pulse very frequent and weaker.

30*th*. We found her extremely restless, having passed a distressful night, occasioned by the severe pain in her side, just above the right ileum. This pain was increased by pressure or change of position. Inability to lie on her left side precluded an examination of her thorax by auscultation. At night an anodyne enema of morphine was administered, which procured for her a refreshing sleep, occasionally interrupted by cough.

October 1*st*. Evidently sinking, as evinced by her anxious countenance, quickened respiration, and feeble pulse; stomach irritable, and pulse very small, feeble, and frequent. She consented reluctantly to lie on her left side for a few moments, to afford an opportunity to examine the respiration. The result was, the detection of cavernous respiration at the base of the right lung, and slight pectoriliquy.

The essence of beef and wine whey were continued, with occasional anodynes, to calm nervous irritability. 10 o'clock, P. M., died.

To Dr. Pepper, who assisted at the autopsy, I am indebted for the subjoined account of the morbid appearances presented fourteen hours after death.

"The sternum, with the cartilages of the ribs, when elevated, presented the convexity of the diaphragm, much distended and compressing the right lung. A small puncture made into the diaphragm, at its most prominent point, gave

issue to at least ℥x. of greenish pus, having but little odour. By extending the opening, it was ascertained that the abscess was formed in the substance of the liver, which was united to the diaphragm by strong adhesions. No communication could be detected between this cavity and the lungs. Another abscess was found in the liver immediately below the diaphragm, it contained but little pus, and communicated with the lower lobe of right lung by several ulcerated openings through the diaphragm. The largest of these openings was one half inch in diameter. Both these cavities were of an irregular shape, and lined by a false membrane. They were traversed by a number of large vessels, which were nearly obliterated, but not destroyed, by the ulceration. The liver, near the cavities, was red and soft; but the rest of its substance was healthy, nor was it increased in size. The gall-bladder contained healthy bile. The right lung was now removed in conjunction with the diaphragm, liver, and stomach. The lower lobe of right lung was perfectly hepatized and adherent to the diaphragm. In its most dependent part was a cavity about one inch in diameter, and lined with a firm cartilaginous membrane. It communicated with the abscess of the liver; several small bronchial tubes terminated in it; and by slight pressure air was made to pass from the lung into the liver. The bronchial tubes and branches of the pulmonary artery, in the lower part of same lung, were inflamed; several small metastatic abscesses existed in different parts of the right lung under the pleura pulmonalis. The right pleura contained about ℥viij. of troubled serosity; stomach adherent to liver; its mucous membrane was slightly thickened; but of good consistence. The peritoneum was thickened throughout; in many parts coated with false membrane of a yellow colour; and its cavity contained about ℥x. of turbid greenish liquid. In the loose cellular substance, between the caput coli and the right iliac fossa, was an abscess, the sides of which were formed by thick cartilaginous membrane, and its diameter was about two inches. A pin, rusty and black, and an inch and a half long, was found in the centre of the pus, with which the abscess was filled. No communication existed between this abscess and the intestine, nor could any traces of previous ulceration of the intestine be seen. The other viscera were healthy."

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Case of Amputation of the Foot. By G. R. B. Horner, M. D., Surgeon U. S. N.—On the 9th of last July, John M'Mahon, æt. 29, a sailor, belonging to the U. S. Frigate United States, was employed in the duty assigned him while she was beating through the Straits of Gibraltar. Imprudently having put his left foot into the coil of a topsail brace while the ship was tacking, it was entangled, when the brace was suddenly drawn through the block, by the swinging of the yard; he was dragged violently along to the block, and being unable to extricate his foot had it torn off at the instep. The parts torn away consisted of the phalanges, the metatarsal bones, and the middle and external cuneiform with the integuments, the extensor longus pollicis, and the extensor and flexor digitorum communis pedis muscles, which were almost entire; the tendons having come out unbroken, and bringing with them many of the muscular fibres. The tarsal bones left were stripped of integuments, the muscles of the sole of the foot were awfully mangled and the arteries being ruptured were retracted and bleeding slowly. He was taken below, where, assisted by Drs. Barington and Elliott, I performed the following operation as soon as preparations could be made. A dose of laudanum and some wine having been given to hasten reaction and lull pain, I amputated with a scalpel the internal cuneiform bone, the cuboides and naviculare, took up the bleeding arteries, which were very difficult to be found, cut across the ragged muscles to make a smooth stump, and then having sponged and dried the parts proceeded to dress the wound. The integuments were brought as near together

as possible by adhesive strips; compresses were applied over them, and the whole secured by a bandage. A splint was next fixed by another bandage to the back of the leg and ankle to keep the heel in its place. The patient was then placed in a cot and the limb put upon pillows. Being in much pain, a grain of sulphate of morphium was dissolved in an ounce of water, and given in divided doses. The next day, to prevent febrile action and do away with any tendency to tetanus, epsom salts were given. ℞. tart. antimonii grs. ij.; tr. opii. denarc. ℥ij.; pulv. gum arab. ℥ss.; aq. fluv. ℥viij. On the fourth day after the accident the dressings were removed. Suppuration being very profuse and the fœtor considerable, the stump was sponged with Labaraque's solution of chloride of soda, and redressed. I continued to treat him locally and constitutionally; the stump healed rapidly; new skin was formed; granulations sprung up and covered the exposed extremity of the astragalus; no alarming symptoms occurred, and by the 23d of August he was so near well that he was sent aboard the Potomac, at Athens, to return home, and given the certificate required for the procuring of a pension. I have just received a letter from Dr. Dodd, surgeon of that ship, informing me that in a few days the healing process will probably be completed.

It may be thought by many that the wound being a lacerated one of the worst kind, it would have been more proper to have amputated either the leg or the thigh. This I thought of doing, but the youth and soundness of constitution of the patient, his unwillingness to lose the limb and the little inconvenience he might experience from losing only a part of the foot, determined me to adopt the above practice, which I certainly have no reason to regret.

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Scirrhus of the Liver and Pylorus, terminating in ulceration, effusion into the abdominal cavity, peritonitis, and death. By S. Littell, Jr., M. D.—The case is chiefly remarkable as having been, at one time, mistaken for aneurism of the descending aorta, with which it certainly possessed several symptoms in common. The patient, aged 52, of moderate stature, temperate habits, and general good health, first observed a pulsating tumour in the epigastric region, a little to the left of the median line, in March of the present year, and was induced to apply for relief to a Thompsonian charlatan. The customary routine, —"number two" to "number six" inclusive, emetics of lobelia, sweating, &c.— was employed by this pretender, and continued during a period of six weeks, with increase of the tumour, and aggravation of all the symptoms. At the close of this process, he came under the care of a physician, and, the obscurity of the case exciting some interest, was seen by several practitioners. A consultation was finally held, the disease pronounced to be aneurism of the aorta, and the unfortunate sufferer, receiving no encouragement from his medical advisers, eagerly grasping at every thing which flattered him with the hope of recovery, and ignorant perhaps of the consequences of his temerity, was again persuaded to make trial of a preparation recommended by one of the nostrum-venders, which infest our city. It proved to be an alcoholic infusion of rhubarb and gentian, and he had been using it daily about two weeks, when I visited him, at the instance of Mr. Graff, a neighbouring apothecary, who kindly offered to furnish, gratuitously, any medicines which might be required. His pulse, at this time, was small and feeble, his inferior extremities cool, and he was evidently in a state of much prostration—circumstances which were satisfactorily explained, by a profuse hemorrhage from the bowels, which he said had twice occurred while taking the nostrum just mentioned. On the left of the epigastrium, was a tumour, hard, round, and well-defined; painful upon pressure, and attended with a very evident pulsation. It was situated directly in the course of the descending aorta, and at first view, might readily have been mistaken for an aneurism of that vessel; the patient asserted his belief of

its connexion with the heart, from a sense of constriction which he experienced, as of a cord passing to that organ; and stated, moreover, that the cardiac pulsation had disappeared as the throbbing of the tumour increased. He complained principally of great tenderness on pressure, involving the tumour, and extending through the right hypochondrium towards the spine; a burning sensation, subject to occasional exacerbations, in the stomach; and pain in the right shoulder and scapula. His pulse though weak, was slow and regular, there was no nausea or vomiting, and he was entirely free from fever. His bowels were generally constipated, and he was habitually troubled also, with coldness of the lower extremities. Such were the prominent symptoms which presented themselves on the first examination, and I might, perhaps, have fallen into the error of my predecessors, had not the probable advance of the disease, since the announcement of their diagnosis, rendered such a mistake less venial than on that occasion. I could distinctly trace the liver, enlarged and indurated, stretching from the tumour through the epigastric, into the upper part of the right iliac region; and this circumstance, in itself conclusive, together with the pain of the shoulder, the absence of bile in the alvine evacuations, and the tenderness on pressure, sufficiently indicated the suffering viscus. I stated my opinion accordingly, to a medical gentleman whom I accidentally met at the house, and subsequent investigation induced me to modify it only so far as to admit the co-existence of chronic peritonitis in the vicinity of the tumour. The bleeding, which did not again recur, was supposed, in the absence of any more probable cause, to have arisen from some hemorrhoidal tumours. The condition of the patient at this late stage, precluded the employment of any active measures,—an alterative mercurial plan, frictions with a liniment containing iodine and the unguentum hydrargyri, leeches, and fomentations with cloths wrung out of a decoction of stramonium, a light demulcent diet, and occasional laxatives and enemata, constituted the whole of the treatment; which was regarded as merely palliative—the increasing weakness and progressive emaciation, sufficiently indicating the fatal character of the malady.

With the exception of one or two rigors, followed by temporary reaction, matters continued in this state for the space of nearly two months; the patient was able to move about his chamber, the digestive functions were well performed, and although no impression was made upon the disease, he was decidedly more comfortable than he had previously been:—when, early on the 7th inst., I was hastily summoned to his house, and found him with all the symptoms of acute and general peritonitis—excessive tenderness of the whole abdomen, a small and frequent pulse, cold extremities, and a countenance expressive of intense anguish. It was clear that there had been effusion of some kind, into the peritoneal cavity; and though the system rallied somewhat, after the vehemence of the shock had passed, he gradually sank, and finally died on the morning of the 15th inst. During the two or three days immediately preceding the fatal termination, there were repeated evacuations, both upwards and downwards, of a purulent and extremely offensive fluid.

The autopsy was performed a few hours after death, in the presence of my friends Drs. I. Parrish and Wiltbank. The internal surface of the peritoneum was universally adherent to the abdominal viscera, with the exception of the portion covering the epigastric, and part of the umbilical region, which was separated from the parts beneath, and formed the anterior wall of an irregular cavity, containing about a quart of sero-purulent fluid. The tumour which had attracted so much attention during life, was ascertained to be the left lobe of the liver, enlarged, indurated, and converted into one entire mass of

scirrhus; no trace of healthy structure remaining. A similar degeneration involved the whole of the inferior portion of the right lobe. Smaller masses of scirrhous matter, were found also in other parts of this organ; appearing on either surface, or being more deeply embedded in its structure. The liver was enlarged to nearly twice its natural size, and the lobulus Spigelii was the only division which could be pronounced quite healthy. The agglutination of the intestines to each other and to the peritoneum, the displacement of the viscera, and the adhesions connecting every part blending the whole in one confused mass, rendered the subsequent steps of the examination somewhat more difficult. The stomach was pressed towards the left hypochondrium, and the pylorus, closely adherent to the inferior surface of the left lobe of the liver, was situated behind, and on a level with, the umbilicus. The pyloric portion of this organ, was converted into a hard, irregular, scirrhous tumour, about the size of a lemon, which had assumed the ulcerative process on its inner surface, and the ulcer, after throwing out a fungous excrescence, had finally perforated the peritoneal covering. The gall-bladder was thickened, empty, and contracted; the spleen, pancreas, and kidneys, quite sound; and the lungs unusually healthy—there being only a slight adhesion to the pleura of the right side. The heart was evidently smaller than natural, but the several parts bore a due proportion to each other, and its structure was perfectly healthy.

The immediate cause of death was now apparent:—through the ulcerated opening in the pylorus, the secretions of that part, and the contents of the stomach also, were extravasated into the abdominal cavity; giving rise to peritonitis with sero or lympho-purulent effusion. An effort had been made by nature to circumscribe the extent of the effusion; and the fluid, accumulating in the vicinity of the ulcer, found its way into the stomach, and constituted the offensive discharge already noticed as having occurred during the latter part of the patient's existence. Other symptoms also, which have been cursorily mentioned—the general feebleness of the circulation and coldness of the inferior extremities, the sense of constriction, and the intestinal hemorrhage—find their explanation in the smallness of the heart, the displacement, and disease of the stomach.

Philadelphia, August 22, 1837.

Case of Suicide in a Child. By Isaac Parrish, M. D.—I was called in haste to visit a child in the family of J. S., a respectable gentleman residing in my neighbourhood.

On my arrival at 3 P. M., I found on going into the chamber of my patient, that death had occurred. The patient was a girl in her fifteenth year, who had been carefully brought up by the family, with whom she had lived between seven and eight years. She had generally enjoyed good health, with the exception of occasional attacks of sick stomach and head-ache. She had just passed the age of puberty, and possessed a docile disposition. Her situation in life, as far as could be ascertained, was in every respect agreeable, and congenial to her wishes.

On the morning of the day of her death, she was engaged as usual in the domestic concerns of the family, until eight o'clock, when she was observed in the yard, vomiting, and appeared languid and sick. She was taken to bed, and various simple remedies were resorted to by the family to relieve the vomiting, which appeared to produce a temporary effect. She did not complain of pain, nor did her friends apprehend any danger from her symptoms until I was sent for. She had two copious evacuations from the bowels in the course of the morning. A few minutes previous to her death, she raised her head over a basin to vomit, after which she turned upon her side and expressed herself as feeling better. Her attendant thinking that she was disposed to sleep, left the

room, and on returning in the course of half an hour, was alarmed at her appearance, and immediately sent for me. When I arrived she was lying in the position stated, perfectly lifeless.

I enquired into the history of the case as minutely as was rendered proper in the agitated state of the family, but could discover no clue, which would lead to the explanation of so sudden and unexpected a catastrophe.

I determined to defer further enquiries until the next day, when the alarm should in some measure have subsided.

On my next visit, I was informed, that early in the morning of the day in which the patient died, she had held a conversation with a little girl residing in the next house, in which she mentioned having lately read in the newspaper of a man, who had been unfortunate in his business, and had taken arsenic to destroy himself. She also spoke of the apothecary shop near by, and said she frequently went there.

The narration of this conversation, afforded strong suspicion to my mind, that she had committed suicide, a suspicion which was strengthened by the fact, that a few months previous I had been called upon to visit a person residing in the same house, who had suffered for some years under mental derangement, and had recently been discharged from the Insane Hospital near Frankford; he had taken laudanum, with the intent of destroying himself. He was, however, rescued by the early resort to emetics, by which free vomiting was induced, and the laudanum was discharged.

This circumstance would naturally produce a strong impression upon the mind of the child, which was increased, no doubt, by the reading of the case detailed in a newspaper. In this way, the desire to commit a similar act was kindled up in the mind of the deluded girl, and thus, by that inexplicable connexion, which, in some instances at least, appears to exist between the knowledge of such a horrible act, and the desire to perform it, she was almost irresistibly impelled to the deed.

A post-mortem examination was made the day following her death, in the presence of Dr. C. Evans. The abdominal viscera presented a healthy appearance externally. On laying open the stomach, we found a quantity of arsenic, weighing nearly ℥ss., lying at the bottom of the organ. The mucuous membrane of the stomach was intensely inflamed, as well as the upper portion of the bowels. The bowels were filled with a light-coloured fluid, resembling very much the "rice-water discharges" of cholera, and having a very peculiar odour. The appearance of the generative organs was natural.

A druggist in the neighbourhood was informed of the circumstance, who stated, that two days prior to her death, he had sold the deceased ℥ss. of arsenic, for the purpose, as she said, of destroying rats, supposing that the youth and apparent simplicity of the purchaser was a sufficient guaranty that she had no evil designs.

This case is stated, as affording strong testimony in favour of a principle, which is now beginning to attract the attention of medical men, viz: that the publicity which is given to cases of suicide, in the newspapers, and by other means, forms one of the strongest incentives to the commission of the act, in those who have a secret disposition to destroy themselves.

If this be the fact, a high responsibility rests upon physicians, so to influence public opinion, and more especially editors, as to prevent the narration of the circumstances connected with the death of this unfortunate class. No good can certainly arise from the exposure of facts which ought to remain in the bosom of distressed families, while, there is reason to believe, the list of victims to suicide is annually very much swelled, from the course which is now so generally pursued.

Case of Urinary Calculus in a girl, successfully treated. By T. D. Mutter, M. D.—About the 1st of January, 1837, I was requested by Dr. G. B. Davis to meet him in consultation on the case of a little girl, nine years of age, who had been brought to the city to be treated for an affection of the bladder. She had been labouring under the disease for more than a year, and had submitted to various remedies during that period.

From the history of the case I was convinced that it was one of stone; and accordingly on sounding her my prediction was verified. The stone seemed to be small and smooth, notwithstanding which she suffered excessively from irritation of the bladder, which was accompanied by the usual evidences of such a state of this organ.

Having ascertained the existence of the stone, the next course was to prepare her for some operation, by which its removal could be accomplished. A preparatory plan of treatment, similar to those usually employed in such cases was, therefore, commenced, and we had the satisfaction to find all the symptoms improving under it, so that at the end of the third week, we deemed her sufficiently reduced, and the bladder in a proper condition for the operation.

On the 22nd of January, assisted by Dr. Davis, and in the presence of her father, I extracted the stone by the following operation. Having placed her in the usual position for lithotomy, I introduced into the bladder a small, straight, and deeply grooved sound. The groove looking directly upwards, as recommended by Dubois. Then with a straight probe pointed bistoury, the point of which was accurately adapted to the groove in the staff, I incised the urethra freely towards the arch of the pubis. The instruments were then withdrawn, and a small pair of curved fenestrated forceps introduced; with them the stone was readily seized and extracted. The operation occupied about a minute; gave but little pain, and was attended by the loss of a teaspoonful or two of blood.

The patient was then placed in bed on her left side, but she was not restricted to this position during the subsequent treatment.

Without going into a detail of the manner in which she was treated after the operation, I will merely remark, that no bad symptoms of any kind whatever resulted from it; that union by the *first intention*, between the lips of the incision, took place; that *retention* of *urine* was as perfect and complete as could be desired; and that the patient went home on the tenth day, perfectly cured.

Remarks.—There is certainly nothing original in the above case, but as it goes to settle a mooted point, I have thought its relation might prove in this way, at least, serviceable. Many of our most distinguished surgeons, ancient as well as modern, have laid it down as an axiom, that a division of the urethra in the female, is invariably followed by incontinence of urine; and, consequently, that the operation should not be performed.

For the most part, this injunction I believe to be correct, and I should myself adhere to it in all cases of the disease occurring in the adult; the advice of some distinguished French surgeons to the contrary notwithstanding. In young subjects, however, I should prefer a division of the urethra and neck of the bladder, to any other operation, and for the following reasons:—

In the first place it is decidedly the most easy of execution. 2nd. It has in three cases, (one of which occurred in the hospital practice of Dr. J. Rhea Barton,) been followed by *nothing like incontinence* of *urine*. 3d. It gives but little pain. 4th. There is no hemorrhage, or danger of any kind, when it is properly performed. And 5th. The cure is more speedily accomplished than by any other means.

Statement of Deaths, with the Diseases and Ages, in the City and Liberties of Philadelphia, during the year 1835.

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	Total.
Apoplexy	37	34	5	3	3	1	2	1	0	1	7	11	12	8	10	13	2	0	0	71
Atrophy	66	46	59	42	47	34	14	4	1	1	0	1	5	3	1	1	0	0	0	112
Abscess	14	16	4	7	3	2	3	0	1	2	6	4	5	2	1	0	0	0	0	30
Anemia	5	4	3	4	6	0	1	0	0	0	0	0	0	0	1	1	0	0	0	9
Asthma	6	6	1	1	1	1	0	0	0	0	0	1	2	0	3	2	1	1	0	12
Asphyxia	8	6	7	5	11	0	1	0	0	0	0	0	1	1	0	0	0	0	0	14
Aneurism of the Aorta	3	1	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	4
Angina Pectoris	2	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	3
Amenorrhœa	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Aphthæ	5	4	5	4	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Bronchitis	98	73	89	59	83	30	29	6	0	0	1	1	3	3	8	2	3	0	2	171
Burns	15	23	12	12	5	6	8	2	2	1	2	3	3	3	0	3	0	0	0	38
Consumption of the Lungs	360	357	55	89	18	18	38	19	12	39	177	165	110	66	33	21	1	0	0	717
Convulsions	182	169	173	155	213	56	40	15	2	2	12	4	5	1	0	0	1	0	0	351
Contusion	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Concussion of the Brain	1	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
Spine	3	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	3
Compression of the Brain	3	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
Cancer Oris	6	5	6	5	1	2	7	1	0	0	0	0	0	0	0	0	0	0	0	11
Cancer	6	20	5	1	0	0	1	5	0	0	1	1	5	6	6	0	1	0	0	26
Uteri	0	5	0	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	5
Croup	77	51	76	48	56	16	40	10	1	1	1	0	1	0	2	0	0	0	0	128
Congestion of the Brain	11	6	5	5	1	3	4	2	0	0	1	1	3	1	0	1	0	0	0	17
Lungs	11	4	9	3	6	1	2	3	0	0	2	0	0	1	0	0	0	0	0	15
Casualties	17	4	6	3	1	0	3	3	0	2	7	2	3	0	0	0	0	0	0	21
Cholera Morbus	11	16	6	8	7	2	3	1	1	0	3	2	1	2	1	2	2	0	0	27
Infantum	135	140	135	140	193	67	14	1	0	0	0	0	0	0	0	0	0	0	0	275
Colic	3	3	2	0	2	0	0	0	0	0	0	1	1	0	1	0	1	0	0	6
Chorea	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Cramp of the Stomach	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Constipation	2	1	1	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3
Child-bed	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Caries	1	2	0	2	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	3
of the Bones of the Ear	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cachexia	1	2	1	1	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	3
Dropsy	46	43	15	10	1	3	9	6	2	4	8	20	7	9	11	6	3	0	0	89
in the Head	110	104	109	103	77	68	42	17	5	3	2	0	0	0	0	0	0	0	0	214
Breast	27	28	11	10	1	1	8	9	0	2	3	10	7	4	8	2	0	0	0	55
Heart (*Pericardium?*)	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Debility	85	93	62	65	118	5	0	3	1	0	1	6	7	7	7	12	9	1	1	178
Dilatation of the Heart	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Disease of the Brain	18	20	10	12	6	9	5	0	0	2	4	3	3	0	2	4	0	0	0	38
Larynx	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Chest	4	5	3	5	3	2	2	1	0	0	0	0	0	1	0	0	0	0	0	9
Lungs	3	1	2	1	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	4
Heart	21	19	8	6	7	1	0	3	2	1	5	3	3	6	6	0	0	0	0	40
Aorta	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Spleen	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Liver	4	6	1	1	1	0	0	0	1	0	2	1	2	2	0	0	1	0	0	10
Stomach	2	2	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	4
Kidneys	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Bowels	4	2	3	2	4	0	0	0	0	1	0	1	0	0	0	0	0	0	0	6
Hip Joint	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Spine	4	0	3	0	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0	4
Uterus	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Bladder	3	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4
Drowned	56	5	13	3	0	1	1	2	9	3	13	23	5	1	3	0	0	0	0	61
Drunkenness	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Dysentery	58	56	40	34	19	19	17	16	2	1	5	9	8	4	4	5	5	0	0	114
Decay	2	3	1	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	5
Diabetes	3	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
Diarrhœa	69	60	39	41	54	14	12	0	0	0	9	10	8	7	6	4	4	1	0	129
Dyspepsia	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Epilepsy	7	6	3	4	1	0	0	2	2	2	1	2	1	1	0	1	0	0	0	13
Erysipelas	6	9	4	3	5	2	0	0	0	0	1	2	0	1	1	2	0	1	0	15
Exposure to Cold	2	2	0	1	1	0	0	0	0	0	0	1	2	0	1	0	0	0	0	4
Effusion on the Brain	14	11	6	9	7	4	2	1	0	1	2	4	2	0	1	1	0	0	0	25
Lungs	1	3	0	3	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	4
Eruptions	2	3	2	2	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	5
Enlargement of Mesenteric Glands	4	1	4	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	5
Carried over	1632	1404	1011	923	957	336	317	141	46	73	289	298	229	143	134	88	34	4	3	3056

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	Total.
Brought over,	1632	1404	1011	923	957	336	317	141	46	73	289	298	229	143	134	88	34	4	3	3
Empyema	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Emphysema	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
of the Lungs	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Fever	10	15	4	8	4	0	3	3	1	1	6	1	2	1	1	1	0	0	0	
Scarlet	135	170	134	168	23	48	139	75	12	5	1	1	1	0	0	0	0	0	0	
Remittent	21	20	3	11	1	2	7	2	2	0	9	6	3	2	6	1	0	0	0	
Intermittent	3	0	2	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	
Bilious	15	10	3	1	1	1	1	0	0	1	11	8	0	2	0	0	0	0	0	
Typhus	15	15	1	3	0	0	0	0	2	2	7	7	4	4	3	1	0	0	0	
Puerperal	0	10	0	0	0	0	0	0	0	0	5	4	1	0	0	0	0	0	0	
Nervous	5	7	1	2	0	0	1	0	0	2	2	5	2	0	0	0	0	0	0	
Brain	2	2	2	1	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	
Putrid	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Continued	1	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
Congestive	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	
Mesenteric	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	
Inflammatory	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
Miliary	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fracture of the Skull	3	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	
Jaw	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Neck	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Leg	1	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	
Fistula	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
Fungus Hematodes	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
of the Bladder	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	
Gout	3	1	0	1	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	
Gravel	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Hæmorrhage	24	16	6	2	5	0	0	1	1	1	6	6	11	4	2	2	1	0	0	
Hooping Cough	46	60	46	60	41	31	30	4	0	0	0	0	0	0	0	0	0	0	0	
Hypertrophy of the Heart	8	5	2	3	2	0	2	0	0	1	4	1	0	1	0	2	0	0	0	
Hernia	2	2	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Inflammation	1	2	0	2	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	
of the Brain	59	47	46	34	22	13	24	14	4	3	12	6	4	2	2	0	0	0	0	
Internal Ear	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tonsils	8	4	7	3	1	3	4	1	1	0	0	1	1	0	0	0	0	0	0	
Neck	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Wind-pipe	4	1	4	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	
Throat	8	4	7	2	3	2	3	0	1	0	1	2	0	0	0	0	0	0	0	
Lungs	129	111	92	86	63	44	48	14	3	6	18	11	6	8	6	2	4	0	0	
Chest	24	13	16	11	19	5	3	0	0	0	4	3	1	0	1	0	1	0	0	
Heart	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Pericardium	4	4	0	3	1	0	1	0	1	0	0	2	2	1	0	0	0	0	0	
Liver	14	9	5	1	3	1	1	1	0	0	5	2	4	3	1	2	0	0	0	
Stomach	14	16	3	9	4	0	4	4	0	0	0	5	2	5	0	5	1	0	0	
Kidney	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
Spleen	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	
Peritoneum	8	9	3	0	1	0	1	0	0	1	4	8	2	0	0	0	0	0	0	
Bowels	46	50	34	35	30	17	11	8	2	1	6	5	10	2	3	2	0	0	0	
Uterus	0	3	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	
Bladder	6	1	0	1	0	1	0	0	0	0	2	0	0	1	2	1	0	0	0	
Scrotum	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Knee	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Intemperance	12	7	0	0	0	0	0	0	0	0	1	9	6	1	2	0	0	0	0	
Inanition	8	10	5	4	7	1	1	0	0	0	0	0	1	2	1	1	2	1	1	
Irritation of the Brain	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
Stomach	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ileus	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Intussusception	3	0	3	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Injury of the Head and Brain	3	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	
Spine	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hip	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
Jaundice	9	3	6	2	7	0	0	0	1	0	2	1	0	0	0	1	0	0	0	
Laudanum to Excess	3	3	2	2	3	0	0	0	0	1	1	1	0	0	0	0	0	0	0	
Locked Jaw	8	2	2	0	0	0	0	1	1	0	2	3	1	1	0	1	0	0	0	
Mortification	19	16	9	6	5	1	6	3	0	0	2	1	5	0	3	4	4	1	0	
Mania	5	8	0	0	0	0	0	0	0	0	2	4	3	1	1	1	0	0	0	
a Potu	54	8	0	0	0	0	0	0	0	0	6	25	15	10	6	0	0	0	0	
Murdered	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
Malformation	9	6	9	6	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Measles	129	119	139	106	35	67	112	29	1	1	0	3	0	0	0	0	0	0	0	
Obstruction of the Glottis	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Old Age	18	53	0	0	0	0	0	0	0	0	0	0	0	0	0	1	20	36	11	3
Ossification of Valves of Heart	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Osteosarcoma of Upper Jaw	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Palsy	28	14	1	0	0	1	0	0	0	0	0	4	6	7	4	15	4	1	0	
Carried over,	2478	2278	1614	1504	1263	579	727	303	81	102	424	441	335	201	188	152	91	18	7	48

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	Total.
Brought over,	2478	2278	1614	1504	1263	579	727	303	81	102	424	441	335	201	188	152	91	18	7	1870
Purpura	1	1	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Rheumatism	9	8	3	1	1	0	0	1	1	1	2	3	0	3	1	3	1	0	0	17
Rupture of Blood Vessel of the Uterus	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Ramollissement of the Brain	2	5	1	1	0	1	0	1	0	0	0	0	0	0	2	3	0	0	0	7
Stomach	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rickets	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Still-born	170	138	170	138	308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	308
Small-Pox	55	46	29	35	22	11	21	6	1	3	26	9	2	0	0	0	0	0	0	101
Scrofula	15	11	13	5	0	3	8	3	1	3	4	1	1	2	0	0	0	0	0	26
Sudden	14	5	4	0	2	0	2	0	0	0	3	3	5	2	1	1	0	0	0	19
Stricture of the Colon	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Urethra	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Sun Stroke	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Suicide	11	5	0	1	0	0	0	0	0	1	4	4	5	0	1	0	0	0	0	16
Scirrhus of Glands	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Liver	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
Stomach	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Pylorus	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Uterus	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Spina Bifida	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Syphilis	1	2	0	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Teething	7	5	7	5	7	4	1	0	0	0	0	0	0	0	0	0	0	0	0	12
Tumour	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
Tetter	2	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Ulcers	0	3	0	2	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	3
Ulceration of the Throat	1	4	1	4	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	5
Lungs	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Bowels	3	5	2	1	0	2	1	0	0	0	1	0	3	0	0	1	0	0	0	8
Navel	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Umbilicus	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Unknown	63	51	33	31	46	6	6	3	2	1	8	18	7	6	5	4	2	0	0	114
Variolold	3	2	2	2	1	2	1	0	0	0	1	0	0	0	0	0	0	0	0	5
Worms	5	4	5	4	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	9
Wounds	8	1	2	1	0	0	0	1	1	1	5	1	0	0	0	0	0	0	0	9
	2985	2681	1896	1738	1679	655	777	321	88	114	480	487	360	222	187	175	96	18	7	5666

Of the above, there were of Males of 20 years and upwards, 1089; under 20 years, 1896; Females of 20 years and upwards, 943; under 20 years, 1738.

There were 398 returns received at the Health Office, of persons who died in the Alms-house of the City and Districts during the year; 568 people of colour are included in the total number of deaths.

Agreeably to returns made at the Health Office, and collected from 170 Practitioners of Midwifery, there were born in the City and Liberties, during the year 1835, 4041 Male, and 3815 Female Children, making the total number of Births 7856; showing a difference between the Births and Deaths of 2190.

Deaths in each Month of the Year.

	Adults.	Children.	Total.
January,	186	288	474
February,	170	260	430
March,	216	246	462
April,	197	373	570
May,	158	305	463
June,	155	312	467
July,	197	478	675
August,	162	365	527
September	189	335	524
October,	143	203	346
November,	130	207	337
December,	149	242	391
	2052	3614	5666

By order of the Board of Health.

WM. A. MARTIN, *Clerk.*

Health Office, Philadelphia, January 1st, 1836.

Statement of Deaths, with the Diseases and Ages, in the City and Liberties of Philadelphia, dur the year 1836.

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110
Abdominal Tumour	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Abscess	5	0	1	0	1	0	0	0	0	0	1	2	0	0	0	1	0	0	0
of the Liver and Lungs	6	7	1	2	1	1	0	2	0	0	3	1	3	2	0	0	0	0	0
" Ear	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
" Kidneys	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Pectoral	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
of the Throat	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" Knee joint	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Lumbar	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Amenorrhœa	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Anemia	1	3	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
Aneurism	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
of the Aorta	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Angina pectoris	4	2	1	0	0	0	0	1	0	0	0	1	0	1	1	2	0	0	0
Apthæ	7	2	7	2	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Apoplexy	50	38	4	2	2	1	1	1	1	0	4	15	15	13	14	13	7	1	0
Asphyxia	12	4	8	4	10	1	0	0	0	1	1	1	2	0	1	0	0	0	0
Asthma	3	7	0	2	1	1	0	0	0	0	0	1	2	0	1	4	1	0	0
Atrophy	46	50	42	40	55	13	8	3	1	2	2	1	2	3	4	1	0	0	0
Bladder, Disease of the	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Blisters, effects of	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Blood-vessel, Rupture of a	5	2	1	0	0	0	0	0	1	0	1	2	2	0	1	0	0	0	0
Bowels, Disease of the	6	3	3	3	5	0	1	0	0	0	0	0	1	1	0	0	0	0	0
Stricture of the	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Ulceration of the	2	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Brain, Concussion of the	2	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
Compression of the	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Congestion of the	13	5	7	2	4	0	2	1	0	2	3	0	0	4	2	0	0	0	0
Disease of the	6	12	3	10	0	6	5	1	0	1	0	3	1	0	1	0	0	0	0
Effusion on the	7	0	2	0	0	1	0	1	0	0	3	1	1	0	0	0	0	0	0
Irritation of the	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abscess of the	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Softening of the	8	4	2	0	1	0	0	1	0	0	1	2	1	4	2	0	0	0	0
Suppuration of the	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Bronchial Vein, Rupture of the	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Bronchitis	79	62	62	44	50	26	17	5	5	1	8	3	4	5	6	10	1	0	0
Burns	12	12	10	9	1	3	11	4	0	0	1	2	0	0	0	1	0	0	0
Cachexia	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Cancer	3	5	0	0	0	0	0	0	0	0	0	3	1	1	1	1	0	0	0
of the Breast	1	6	0	0	0	0	0	0	0	0	0	2	2	1	2	0	0	0	0
Intestines	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Leg	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mouth	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
Ovaries	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Stomach	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Uterus	0	8	0	0	0	0	0	0	0	0	0	1	3	2	1	1	0	0	0
Cardialgia	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Caries	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Casualties	34	7	7	2	2	0	2	3	2	2	6	11	2	1	3	0	0	0	0
Chest, Disease of the	4	4	2	0	0	2	0	0	0	0	2	1	1	1	0	0	0	0	0
Effusion on the	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Child-bed	0	7	0	0	0	0	0	0	0	0	2	5	0	0	0	0	0	0	0
Cholera Morbus	7	4	3	1	0	1	1	0	1	0	0	2	2	0	3	0	1	0	0
Cholera Infantum	117	95	117	95	145	53	13	1	0	0	0	0	0	0	0	0	0	0	0
Chorea	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Cold, Exposure to	6	2	1	1	2	0	0	0	0	0	2	0	2	2	0	0	0	0	0
Cold water, Drinking	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Colic	2	1	1	1	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Painters'	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Constipation	2	4	0	2	2	0	0	0	0	0	0	0	1	2	1	0	0	0	0
Consumption of the Lungs	393	362	68	67	30	23	29	13	7	34	207	181	105	65	37	19	5	0	0
Convulsions	157	125	150	115	184	27	43	8	3	0	6	5	2	4	0	0	0	0	0
Puerperal	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Croup	55	63	54	62	39	30	33	13	1	0	0	1	1	0	0	0	0	0	0
Debility	103	89	74	53	120	4	2	0	1	0	4	5	7	6	11	21	11	0	0
Decay	2	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Diabetes	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Diarrhœa	67	69	34	35	54	6	7	1	0	1	11	16	6	9	10	10	5	0	0
Dropsy	54	54	15	3	0	5	7	3	2	1	12	14	20	21	15	6	1	0	1
of the Head	81	81	80	80	70	41	37	8	3	1	0	0	0	1	0	1	0	0	0
Chest	28	17	4	5	0	2	3	3	1	0	2	4	5	8	9	7	1	0	0
Pericardium	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
Drowned	44	5	9	4	0	1	0	7	1	4	12	16	4	2	2	0	0	0	0
Dysphagia	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carried over,	1348	1143	783	659	49	3	252	227	81	33	61	298	312	291	162	132	100	35	1

DISEASES.	*Males.*	*Females.*	*Boys.*	*Girls.*	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	Total.
Brought over,	1348	1143	783	659	493	252	227	81	33	61	298	312	201	162	132	100	35	1	1	2704
Dysentery	57	38	26	16	10	13	8	6	2	2	16	10	14	6	3	3	0	2	0	95
Dyspnœa	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Dyspepsia	4	1	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	5
Epilepsy	5	3	0	0	0	0	0	0	0	0	0	3	3	2	0	0	0	0	0	8
Eruptions	2	1	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Erysipelas	14	10	8	7	12	1	0	1	1	0	0	2	2	3	1	0	1	0	0	24
Fever	29	23	11	10	6	2	6	3	2	2	8	10	4	1	5	2	0	1	0	62
Brain	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Bilious	10	14	3	3	0	2	2	0	1	1	6	1	1	4	5	1	0	0	0	24
Continued	3	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	4
Congestive	4	6	2	3	4	0	0	0	0	1	0	0	3	0	0	2	0	0	0	10
Hectic	0	3	0	1	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
Intermittent	8	5	2	1	1	0	1	0	0	1	6	1	2	0	0	0	0	1	0	13
Miliary	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Nervous	3	6	0	3	0	0	0	1	1	1	1	5	0	0	0	0	0	0	0	9
Puerperal	0	13	0	0	0	0	0	0	0	0	3	6	4	0	0	0	0	0	0	13
Remittent	32	29	10	8	4	2	2	5	2	3	13	7	8	5	3	4	3	0	0	61
Scarlet	110	130	107	125	34	31	108	51	6	2	5	1	0	2	0	0	0	0	0	240
Typhus	131	80	14	12	1	0	4	5	4	13	57	42	72	4	6	2	1	0	0	211
Fracture of the Extremities	5	2	1	0	0	0	0	0	0	1	0	1	1	0	1	0	2	0	0	7
Fungus hæmatodes	0	2	0	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3
Gout	6	1	0	0	0	0	0	0	0	0	3	0	0	1	3	2	0	0	0	7
Hæmorrhage	16	14	3	0	1	0	1	1	0	0	10	7	4	4	2	0	0	0	0	30
Head, Injury of the	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Heart, Enlargement of the	9	5	3	1	0	0	1	1	0	2	2	2	0	3	1	2	0	0	0	14
Malformation of the	1	2	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Rupture of the	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Spasm of the	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Ossification of valves of	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Dilatation of the	2	3	0	1	0	0	0	0	0	1	1	0	1	1	0	0	1	0	0	5
Disease of the	17	18	3	3	2	0	1	0	1	3	3	9	1	9	5	0	1	0	0	35
Hernia	3	3	0	1	1	0	0	0	0	0	0	1	1	1	0	1	1	0	0	6
Hooping Cough	41	53	43	51	45	21	26	2	0	0	0	0	0	0	0	0	0	0	0	94
Hip-joint, Disease of the	2	1	1	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3
Ileus	1	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Inanition	3	2	2	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0	0	5
Inflammation	0	3	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
of the Brain	49	47	26	31	17	7	17	7	5	4	14	13	6	3	2	1	0	0	0	96
Internal Ear	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Parotid gland	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Larynx	2	1	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
Tonsils	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Throat	1	2	1	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Lungs	117	88	64	43	41	25	26	10	1	4	14	19	19	14	14	13	4	1	0	205
Heart	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Chest	22	22	11	10	12	4	5	0	0	0	4	8	6	1	3	0	0	0	0	44
Windpipe	2	1	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Pericardium	3	3	1	0	1	0	0	0	0	0	2	1	1	0	1	0	0	0	0	6
Stomach	15	24	1	10	6	1	3	0	1	0	6	10	4	2	4	1	0	1	0	39
Bowels	60	43	34	25	32	4	9	9	1	4	13	11	12	4	1	2	1	0	0	103
Kidneys	2	2	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	1	0	4
Liver	11	6	2	2	0	3	0	0	0	1	3	3	2	4	1	0	0	0	0	17
Colon	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Peritoneum	12	13	3	2	1	0	2	0	0	2	6	8	5	0	1	0	0	0	0	25
Knee	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Uterus	0	5	0	0	0	0	0	0	0	0	1	2	1	0	0	1	0	0	0	5
Scrotum	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Testicle	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bladder	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
Veins	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Intemperance	12	14	0	0	0	0	0	0	0	0	6	8	2	2	0	1	0	0	0	26
Insanity	11	8	0	1	0	0	0	0	0	1	3	6	3	3	1	2	0	0	0	19
Intestines, Obstruction of the	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Mortification of the	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Jaundice	13	5	4	4	7	0	1	0	0	0	2	4	1	0	2	1	0	0	0	18
Kidneys, Ulceration of the	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Liver, Disease of the	10	8	3	1	0	1	1	0	1	0	2	5	4	2	1	0	0	0	0	18
Congestion of the	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Locked jaw	5	2	2	1	1	0	0	0	1	1	2	0	1	0	0	1	0	0	0	7
Lungs, Effusion on the	2	2	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	4
Mortification of the	4	2	0	0	0	0	0	0	0	0	2	1	1	1	0	1	0	0	0	6
Congestion of the	5	9	3	7	4	2	3	1	0	0	3	1	0	0	0	0	0	0	0	14
Disease of the	4	3	2	2	2	1	1	0	0	0	0	0	1	1	0	0	0	0	0	7
Malformation	7	3	7	3	10	0	0	0	0	0	0	0	0	1	0	0	0	0	0	10
Mania-a-Potu	79	11	0	0	0	0	0	0	0	0	19	45	16	9	1	0	0	0	0	90
Marasmus	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Measles	4	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Mortification	16	14	4	2	1	0	4	0	0	1	2	6	8	1	3	3	1	0	0	30
Carried over,	2353	1864	1208	1066	769	377	469	184	65	114	544	488	329	263	209	141	35	8	1	4411

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110
Brought over,	2353	1864	1208	1066	769	377	469	184	65	114	544	488	329	263	209	141	35	8	1
Murdered	2	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0
Necrosis of the thigh bone	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Œsophagus, Stricture of the	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Old age	22	50	0	0	0	0	0	0	0	0	0	0	0	4	15	38	15	0	0
Omentum, Fungus of the	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Ovarium, Disease of the	0	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
Palsy	28	17	2	2	0	0	0	2	0	2	1	2	6	5	13	10	3	0	1
Phlegmasia dolens	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Poisoned	6	8	1	3	2	0	1	0	0	1	7	1	1	1	0	0	0	0	0
Polypus	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Purpura	0	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rectum, Disease of the	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Malformation of the	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheumatism	2	2	0	1	0	0	0	1	0	0	1	1	0	1	0	0	0	0	0
Rickets	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Rupia	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Scull, Fracture of the	3	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0
Scirrhus	3	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0
of the Uterus	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Stomach	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Female Breast	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Scrofula	7	12	6	10	1	4	4	3	3	1	1	0	1	0	1	0	0	0	0
Scrotum, Ulceration of the	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Mortification of the	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Scurvy	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Small-pox	51	35	31	29	19	9	22	4	2	4	7	12	4	2	0	1	0	0	0
Spina bifida	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Spine, Disease of the	5	4	5	2	3	1	0	2	1	0	2	0	0	0	0	0	0	0	0
Fracture of the	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Caries of the	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Spleen, Disease of the	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Still-born	171	164	0	0	335	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stomach, Disease of the	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Irritation of the	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sudden	11	8	9	3	9	1	1	0	0	1	1	3	0	1	0	2	0	0	0
Suicide	10	2	0	0	0	0	0	0	0	0	3	5	1	2	1	0	0	0	0
Syphilis	4	3	0	2	2	0	0	0	0	0	3	2	0	0	0	0	0	0	0
Teething	4	10	4	9	5	7	1	0	0	0	0	0	0	1	0	0	0	0	0
Throat, Disease of the	5	3	3	3	2	2	2	0	0	0	0	0	1	0	1	0	0	0	0
Tubercular disease	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Tympanites	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Ulcers	3	2	3	2	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0
Unknown	72	66	26	24	39	6	3	1	1	1	14	26	24	9	13	1	0	0	0
Uterus, Ulceration of the	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Disease of the	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Vomiting	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
Worms	2	4	2	4	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0
Total,	2883	2474	1304	1165	1496	415	508	200	73	124	575	638	477	295	242	182	99	22	4

Of the above, deducting the Still-born, there were Males of 20 years and upwards, 1407; under 20 years 1304. Females of 20 years and upwards, 1144; under 20 years, 1328.

There were 445 returns received at the Health Office, of persons who died in the Alms-house of the City and Districts during the year; 741 people of colour are included in the total number of deaths.

Agreeably to returns made at the Health Office by 149 Practitioners of Midwifery, there were born in the City and Liberties, during the year 1836, 3864 Male, and 3544 Female Children, making the total number of Births 7408; showing a difference between the Births and Deaths of 2051.

Deaths in each Month of the Year.

	Adults.	Children.	Total.
January,	182	275	457
February,	165	222	387
March,	177	196	373
April,	254	225	479
May,	231	149	381
June,	204	182	386
July,	260	311	570
August,	216	309	515
September,	229	301	530
October,	189	194	382
November,	209	187	397
December,	235	265	500
	2551	2806	5357

By order of the Board of Health.

SAMUEL P. MARKS, *Clerk.*

Health Office, Philadelphia, January 1, 1837.

Remarks on the Philadelphia Bills of Mortality for the years 1835 *and* 1836.—The number of deaths in 1835 exceeds that of 1834, 593; whilst that of 1836 falls short of the mortality of 1835, 309. Most of the excess in 1835 is to be ascribed to the greater mortality in the early periods of life, the deaths of children exceeding that of adults 562, whilst in 1836 the excess of children was only 255.

The comparative mortality of the several years, from those diseases which prove most destructive to human life, may be seen in the following table:

DISEASE.	1834	1835	1836
Consumption,	636	717	755
Convulsions,	277	351	282
Small-Pox,	195	101	86
Varioloid,	17	5	
Measles,	7	248	4
Scarlet Fever,	88	305	240
Croup,	81	128	118
Hooping-Cough,	48	106	94
Bronchitis,	121	171	141
Apoplexy,	76	71	88
Inflammation of the Brain,	104	106	96
Fevers, exclusive of Scarlet and Puerperal,	175	149	389
Fever, Typhus,	61	42	220
Bowel Complaints,	623	545	454
Inflammations of all kinds, including Bronchitis,	642	778	711
Dropsies,	353	360	317

The above statement shows that the mortality from small-pox has been gradually subsiding, and that measles, which in 1835 was so very destructive, in 1836 had almost disappeared. Scarlet fever, though still swelling the bill of mortality, was on the decline; and the deaths from bowel complaints was much reduced, especially when compared with those of 1834. The mortality from fevers during the last year was more than double that of either of the preceding years, and the increase is highly conspicuous in typhus and nervous fevers.

The following table exhibits the mortality from bowel complaints in the years 1835 and 1836; and shows that the disparity between the deaths of adults and children, though always great, was much less in 1836 than in the preceding year.

	1835.			1836.		
	Adults.	*Children.*	*Total.*	*Adults.*	*Children.*	*Total.*
Cholera Morbus,	13	4	27	7	4	11
——— Infantum,		275	275		212	212
Dysenterry,	40	74	114	67	69	136
Diarrhœa,	49	80	129	53	42	95
	102	443	545	127	327	454

The births during the last three years, with the proportions of the sexes, are represented as follows:

	Males.	*Females.*	*Total.*	*Excess of Males.*
1834,	3937	3635	7572	302
1835,	4041	3815	7856	226
1836,	3864	3544	7408	320

The apparent falling off in the amount of births in 1836, is undoubtedly owing to some defalcation in making or collecting the returns. G. E.

Animal Magnetism.—This is the wonder of the day. The stories current regarding its effects, and sustained by what is deemed credible authority, are of the most miraculous character. It is seriously affirmed that persons, under what is termed "the magnetic influence," are endowed with the power of seeing through numerous opaque envelopes and reading sentences therein enclosed; of predicting future events; of visiting, *in spirit*, distant places, and seeing what is passing there; and with various other faculties, equally extraordinary, and contrary to what has hitherto been deemed the well established laws of nature. The belief in these wonders is said to be almost as general in some parts of New England as that in witchcraft was a century and a half ago; and, as was the case with this last delusion, it is not confined to the ignorant and vulgar, but numbers among its votaries many educated persons and those holding high stations—clergymen, professors in colleges, physicians, and members of the bar and bench. It might be supposed that, before persons of general intelligence could be induced to repose faith in such startling propositions as those we have mentioned, evidence of the most unquestionable character must have been adduced. No such evidence, however, can we find to have been afforded; and, in the absence of all such, we must infer that a well devised and ingenious system of jugglery has been practised: adding another to the numerous exemplifications of the fact, that ingenious knavery always finds in the world credulity sufficient to furnish dupes.

We do not mean this disrespectfully. The whole history of the human race is a record of delusions. From the golden calf to the prophet Mathias, how many delusions have not prevailed in religion? In medicine, from Hoangti to Hahnemann, have we not had a succession of absurd doctrines, and all found votaries; even the last, the most irrational of all. In what art or science, indeed, has not man's mind rioted in extravagances? What hypothesis ever framed has been too ridiculous not to have been received by many as established truth. Mankind have always been too apt to mistake opinions for facts, and the phantoms of the imagination for real existences. There is no subject less understood than that of evidence. A thorough and philosophical treatise on the principles of evidence, divested of technicalities, is amongst the greatest of desiderata.

Whilst we repudiate the extravagances of animal magnetism, (what is termed *clairvoyance*, for example,) we do not deny that very remarkable phenomena follow, and appear to result from, the operations of magnetisers. What is the nature, however, of these phenomena, and the causes by which they are produced, remains yet to be exposed. So far as we have witnessed them, they are analogous to those frequently seen in diseased states of the nervous system, and are chiefly remarkable and excite surprise from being produced under influences not supposed capable of such effects.

It is the duty of a sound philosophy to carefully observe and record all these phenomena, and after a sufficient number have been collected, to analyze them, classify them, and compare them with those exhibited in the various diseases of the nervous system. All this must be done in good faith, and without allowing the mind to be influenced by preconceived opinions. Especially necessary also is it, that in recording what is observed, no terms should be employed predicated upon theory. The words animal magnetism should, for the present, at all events, be abandoned, as its use indicates the adoption of an hypothesis —a belief in an invisible, imponderable fluid—the existence of which is entirely supposititious. Above all, we must be careful not to allow ourselves to be duped by charlatans; who, knowing how to take advantage of the moment when we are thrown off our guard by surprise at seeing phenomena produced at a moment when not expected, challenge our belief to the full extent, in their marvellous powers. Having proved to us the verity of what we may have deemed *improbable*, they would, on the faith of the credit thus gained, have us give credence to what is *impossible*.

Several competent physicians are now investigating the subject, and, we think, in the right spirit. With the better knowledge we now possess of the nervous system, some fruits may be expected from their inquiries. When completed, we hope to be able to present them to our readers.

Having premised so much, we shall now give a brief history of animal magnetism, and an account of the processes to be followed by magnetizers. We derive the former principally from Millingen's Curiosities of Medical Experience, a work with which we propose hereafter to make our readers more fully acquainted—the latter from Hartshorne's translation of Deleuze's Practical Instruction in Animal Magnetism.

"So early as 1462, Pomponatius of Mantua maintained, in his work on incantation, that all the pretended arts of sorcery and witchcraft were the mere results of natural operations; he farther gave it as his opinion, that it was not improbable but that external means, called into action by the soul, might relieve our sufferings; that there, moreover, did exist individuals endowed with salutary properties, and it might therefore easily be conceived that marvellous effects should be produced by the imagination, and by confidence, more especially when they are reciprocal between the patient and the person who assists his recovery; physicians and men of sense being well convinced that if the bones of any animal were substituted for those of a saint, the result would be the same. It need not be added that our author was violently persecuted for this heretical doctrine. Two years after, Agrippa, in Cologne, asserted that the soul inflamed by a fervent imagination could dispense health and disease, not only in the individual himself, but in other bodies. In 1493, Paracelsus expressed himself in the following language: 'All doubt destroys work, and leaves it imperfect in the wise designs of nature. It is from faith that imagination draws its strength. It is by faith that it becomes complete and realised. He who believeth in nature will obtain from nature to the extent of his faith. Let the object of this faith be real or imaginary, you nevertheless reap similar results, and hence the cause of superstition.'

"Cardanus, Bacon, Van Helmont pursued this study; and the latter physician, having cured several cases by magnetism, was considered a sorcerer, and seized by the Inquisition. Magnetism, he observed, 'is a universal agent, and only novel in its appellation, and paradoxical to those who ridicule everything they do not comprehend, or attribute to Satan what they cannot understand. The name of magnetism is given to that occult influence which bodies possess on each other at various distances, either by attraction or by impulsion. The means or the vehicle of this influence is an ethereal spirit, pure, vital, (*magnale magnum,*) which penetrates all matter, and agitates the mass of the universe. This spirit is the moderator of the world, and establishes a correspondence between its several parts and the powers with which it is endowed. We can attach to a body the virtues that we possess, communicate to it certain properties, and use it as the intermediate means to operate salutary effects. I have hitherto withheld the revelation of this great mystery. There exists in man a certain energy, which can act beyond his own person according to his will or his imagination, and impart virtues and exercise a durable influence even in distant objects. Will is the first of powers.' Van Helmont fully admitted the wonderful faculties that somnambulism seemed to develope, and informs us that it was chiefly during his sleep that he was inspired with his doctrines. One might have imagined that these philosophic researches would have put an effectual stop to the progress of superstition, or rather of persecution; yet their promulgation could not save Urbain Grandier, and many supposed sorcerers, from a barbarous death.

"It was in the beginning of the eighteenth century that various experiments were made with the loadstone in researches regarding electricity. In 1754, Lenoble had constructed magnets that could be used with facility in the treatment of various diseases. In 1774, Father Hell, a Jesuit and professor of astronomy at Vienna, having cured himself of a severe rheumatism by magnetism, related the result of his experiments to Mesmer. This physician was immediately struck with observations that illustrated his own theories respecting planetary influence. He forthwith proceeded to procure magnets of every form and description for the gratuitous treatment of all those that consulted him; and, while he widely diffused

his doctrines, he sent his magnets in every direction to aid the experimental pursuits of others, and thus expressed himself on the subject in a memoir published in 1779: 'I had maintained that the heavenly spheres possessed a direct power on all the constituent principles of animated bodies, particularly on the *nervous system*, by the agency of an all-penetrating fluid. I determined this action by the INTENSION and the REMISSION of the properties of matter and organized bodies, such as gravity, cohesion, elasticity, irritability, electricity. I supported this doctrine by various examples of periodical revolutions; and I named that property of the animal matter, which renders it susceptible to the action of celestial and earthly bodies, ANIMAL MAGNETISM. A farther consideration of the subject led me to the conviction that there does exist in nature a universal principle, which, independent of ourselves, performs all that we vaguely attribute to nature or to art.'

"Mesmer, as might have been foreseen, became the subject of persecution and of ridicule, and withdrew to Switzerland and Suabia. It was there that he met with a certain Gassner of Braz, who, having fancied that an exoreism had relieved him from a long and painful malady, took it into his head to exorcise others. He considered the greater part of the disorders to which flesh is heir as the work of the Devil, and he counteracted his baneful influence in the name of our SAVIOUR: He divided these diabolical visitations into *possessions*, *obsessions*, and *circumsessions;* the latter being trifling invasions. For the purpose of ascertaining whether his patients laboured under natural or infernal ailments, he conjured Satan to declare the truth. If, after three solemn interpellations, and signs of the cross, the Devil did not answer, the disorder was considered as coming within the province of medicine; but if, on the contrary, the patient fell into convulsions, Gassner drew forth his stole and crucifix, and in the name of the Redeemer commenced rubbing and pinching, sometimes in the most indecorous manner, when females were submitted to his manipulations. When his attempts failed, he accused the patient of want of faith or of the commission of some deadly sin, which baffled his endeavours. His fame became so universal that the Bishop of Ratisbon sent for him, and he exercised his art under his auspices; at one period the town was so crowded with his patients, that ten thousand of them were obliged to encamp without the walls. It appears that this adventurer had the power of acting upon the pulse, and could increase or retard it, render it regular or intermittent, and was even reported to paralyse limbs and produce tears or laughter at will. It is scarcely credible, yet the celebrated De Haen, one of the most distinguished and learned practitioners in Germany, not only believed in the power of this Gassner, but actually attributed it to a paction with the Devil.

"Mesmer was not so credulous, and explained the miraculous cures of Gassner by the doctrines of the animal magnetism which he advocated. From Suabia he returned to Vienna, whence he was expelled as a quack; and in 1778 arrived in Paris, a capital that had patronised Cagliostro and St. Germain, and was ever ready to be deceived by ingenious empiricism. In 1779 he published a paper on the subject, in which he maintained twenty-seven propositions to establish his supposed influence between the celestial bodies, the earth, and animated matter, produced by a fluid universal, subtile, susceptible of receiving, transmitting, and communicating its impressions, on mechanical principles until then unknown, and producing alternate effects of flux and reflux. This powerful agent, he said, acted chiefly on the nervous system. The human body, moreover, according to his notions, possessed properties analogous to the loadstone, and presenting an opposed polarity, subject to various modifications, which either strengthened or weakened it. The action of animal magnetism, according to him, was not confined to animal matter, but could be equally communicated to inanimate bodies at various distances. Mirrors could reflect and increase its power like the rays of light, and sound could propagate and increase it. This magnetic property, he farther stated, could be accumulated, concentrated, and transported at pleasure, although there did exist animated bodies possessed of properties so opposite as to render this powerful agent inefficient. He found that the loadstone was susceptible of animal magnetism, and of its opposite virtues, without any apparent influence on its power over iron and the needle; whence he concluded that there existed a wide difference between animal and mineral magnetism.

"Mesmer soon found a warm advocate of his doctrines in a Dr. D'Eslon, and

animal magnetism became in fashionable vogue. Not only were men and animals subjected to their experiments, but this wondrous influence was communicated to trees and plants, and the celebrated elm-tree of Beaugency was magnetised by the Marquis de Puységur and his brother; while the enthusiastic D'Eslon absolutely went knocking from door to door to procure patients. Breteuil, who was then one of the ministers, offered Mesmer a yearly pension of thirty thousand francs, with a sum of three hundred thousand francs in cash, with the decoration of St. Michael, if he would consent to reveal the mysteries of his science to the medical faculty. This tempting offer our magnetiser indignantly rejected, and a secret society was instituted under the name of the Lodge and Order of Harmony. The charms and the power of youth and music were not neglected as auxiliaries to propagate the fashionable doctrine. Young men of elegant manners and athletic form were initiated in the practice of magnetising, and the *salons* of Paris consecrated to this worship (for such it might have been termed) were crowded with the most fascinating women that the gay metropolis of France could produce. Most of these females, empassioned by nervous excitability, as loose in their morals as to outward appearance they were fervent in their devotions, abandoned themselves without reserve to the delightful sensations that magnetism and its surrounding machinery were said to afford. In their ecstacies, their hysteric attacks, their spasms, Mesmer, the high-priest, fancifully dressed, but in the height of fashion, with his youthful acolytes, endeavoured to soothe and calm the agitation of their enchanting patients by all the means that Mesmerism could devise.

"It soon became pretty evident that these phenomena were solely to be attributed to the influence of imagination; and Doppet, one of the most ardent disciples of the new creed, frankly avowed that 'those who were initiated in the secrets of Mesmer entertained more doubts on the subject than those who were in thorough ignorance.' Notwithstanding this evidence brought forward against Mesmer's fascinating practice, he was warmly eulogised even by high churchmen; and Hervier, a doctor of Sorbonne, did not hesitate to assert that the golden age was on the return; that man would be endowed with fresh vigour, live for the space of five generations, and only succumb to the exhaustion of age; that all the animal kingdom would enjoy a similar blessing; while magnetised trees would yield more abundant and delicious fruits. This belief of the good ecclesiastic arose, according to his own assertion, from his having been cured of some cruel disorder by magnetism, while all his intimate acquaintances insisted that he had never ceased to enjoy perfect health.

"Such were the circumstances that attended the introduction of animal magnetism, which to this day is defended and maintained by ardent proselytes. Sound philosophy can only attribute its wonderful phenomena, many of which cannot be denied, to the influence of the imagination, and the all-powerful deceptive agency of faith. It is an incontrovertible fact that the nervous system may be so worked upon, thrown by various secret and physical means into such a morbid condition, that results bordering upon the miraculous in the eyes of the credulous may be easily obtained. Every circumstance that appears to differ from the usual course of nature is deemed miraculous by the ignorant; and the Greek proverb θαυματα μωρων, plainly maintains that miracles are only for the simple. In fact, who are the persons who in our times cry out 'miracle,' but weak and timid men, worn out by excesses or age, labouring under the influence of terror; silly old women, who have not the power of reasoning; or nervous and enthusiastic females, who seek for some saving clauses in a pact between vice and virtue, depravity and religion.

"All the wonders of the creation are miraculous, if we are to consider as such those phenomena that are, and most probably will ever remain, beyond our humble and miserable comprehension."

The doctrine of Animal Magnetism has several times been brought before the Academy of Medicine of France. In 1827, a committee of eleven members were appointed by this body to examine the subject. This committee consisted of M. M. Bourdois de la Motte, Fouquier, Gueneu de Mussy, Guersent, Husson, Itard, Leroux, Marc, Thillaye, Double and Magendie, all

names well known to science. Of these gentlemen, the two last declined to act. A report drawn out by M. Husson was made in 1831, and which gave rise to much discussion.

This subject was again incidentally brought before the Academy in January last, and on the 14th February, at the request of M. Berna, a new committee was appointed to which he promised to exhibit the phenomena of Animal Magnetism. This committee consisted of MM. Bouillaud, Emery, Oudet, Roux, Cloqueot, Dubois d'Amiens, Cornac, Pelletier, and Caventou. A report written by M. Dubois d'Amiens was made from this committee in August last, minutely detailing their proceedings.

This report is too long for us to give at present, but their final conclusion was, that M. Berna had deceived himself when he promised to exhibit to a committee of the Academy *conclusive* facts, and when he affirmed that these facts were of a character to throw light on Physiology and Therapeutics. These facts, say the committee, were any thing but conclusive in favour of the doctrine of Animal Magnetism; and that they had nothing in common either with Physiology or Therapeutics.

The following are the processes to be employed by magnetisers, as given by Deluze.

"Cause your patient to sit down in the easiest position possible, and place yourself before him, on a seat a little more elevated, so that his knees may be between yours, and your feet by the side of his. Demand of him in the first place that he give himself up entirely, that he think of nothing, that he do not trouble himself by examining the effects which he experiences, that he banish all fear, and indulge hope, and that he be not disquieted or discouraged if the action of magnetism produces in him temporary pains.

"After you have brought yourself to a state of self-collectedness, take his thumbs between your two fingers, so that the inside of your thumbs may touch the inside of his. Remain in this situation five minutes, or until you perceive there is an equal degree of heat between your thumbs and his: that being done, you will withdraw your hands, removing them to the right and left, and waving them so that the interior surface be turned outwards, and raise them to his head; then place them upon his two shoulders, leaving them there about a minute; you will then draw them along the arm to the extremity of the fingers, touching lightly. You will repeat this *pass** five or six times, always turning your hands and sweeping them off a little, before reascending: you will then place your hands upon the head, hold them there a moment, and bring them down before the face, at the distance of one or two inches, as far as the pit of the stomach: there you will let them remain about two minutes, passing the thumb along the pit of the stomach, and the other fingers down the sides. Then descend slowly along the body as far as the knees, or farther; and, if you can conveniently, as far as the ends of the feet. You may repeat the same processes during the greater part of the sitting. You may sometimes draw nearer to the patient so as to place your hands behind his shoulders, descending slowly along the spine, thence to the hips, and along the thighs as far as the knees, or to the feet. After the first passes you may dispense with putting your hands upon the head, and make the succeeding passes along the arms, beginning at the shoulder; or along the body commencing at the stomach.

"When you wish to put an end to the sitting, take care to draw towards the extremity of the hands, and towards the extremity of the feet, prolonging your passes beyond these extremities, and shaking your fingers each time. Finally, make several passes transversely before the face, and also before the breast, at the distance of three or four inches: these passes are made by presenting the two hands together and briskly drawing them from each other, as if to carry off the superabundance of fluid with which the patient may be charged. You see that

* I employ here the word pass, which is common to all magnetizers: it signifies all the movements made by the hand in *passing* over the body, whether by slightly touching, or at a distance.

it is essential to magnetize, always descending from the head to the extremities, and never mounting from the extremities to the head. It is on this account that we turn the hands obliquely when they are raised again from the feet to the head. The descending passes are magnetic, that is, they are accompanied with the intention of magnetizing. The ascending movements are not. Many magnetizers shake their fingers slightly after each pass. This method, which is never injurious, is in certain cases advantageous, and for this reason it is good to get in the habit of doing it.

"Although you may have at the close of the sitting taken care to spread the fluid over all the surface of the body, it is proper, in finishing, to make several passes along the legs from the knees to the end of the feet. These passes free the head. To make them more conveniently, place yourself on your knees in front of the person whom you are magnetizing.

"I think it proper to distinguish the passes that are made without touching, from those which are made with the touch, not only with the ends of the fingers, but with all the extent of the hand, employing at the same time a slight pressure. I give to these last the name of *magnetic frictions:* they are often made use of to act better upon the arms, the legs, and the back, along the vertebral column. This manner of magnetizing by longitudinal passes, directing the fluid from the head to the extremities, without fixing upon any part in preference to others, is called *magnetizing by the long pass*, (magnétiser à grands courans.) It is more or less proper in all cases, and it is requisite to employ it in the first sitting, when there is no special reason for using any other. The fluid is thus distributed into all the organs, and it accumulates naturally in those which have need of it. Besides the passes made at a short distance, others are made, just before finishing, at the distance of two or three feet. They generally produce a calm, refreshing, and pleasurable sensation.

"There is one more process by which it is very advantageous to terminate the sitting. It consists in placing one's-self by the side of the patient, as he stands up, and, at the distance of a foot, making with both hands, one before the body and the other behind, seven or eight passes, commencing above the head and descending to the floor, along which the hands are spread apart. This process frees the head, re-establishes the equilibrium, and imparts strength.

"When the magnetizer acts upon the patient, they are said *to be in communication*, (rapport.) That is to say, we mean by the word *communication*, a peculiar and induced condition, which causes the magnetizer to exert an influence upon the patient, there being between them a communication of the vital principle.

"This communication is sometimes established very soon, and sometimes after a long trial. This depends upon the moral and physical conditions of the two individuals. It is rare not to have it established at the first sitting. Experienced magnetizers generally perceive it in themselves when this takes place.

"When once the communication is well established, the action is renewed in the succeeding sittings, at the instant of beginning to magnetize. Then if you wish to act upon the breast, the stomach, or the abdomen, there is no utility in touching, provided it is not found more convenient. Ordinarily magnetism acts as well and even better in the interior of the body, at the distance of one or two inches, than by the touch. It is enough at the commencement of the sitting to take the thumbs a moment. Sometimes it is necessary to magnetize at the distance of several feet. Magnetism at a distance is more soothing, and some nervous persons cannot bear any other.

"In making the passes it is unnecessary to employ any greater muscular force than what is required to lift the hand and prevent it from falling. The movements should be easy and not too rapid. A pass from the head to the feet may take about half a minute. The fingers ought to be a little separated from each other, and slightly bent, so that the ends of the fingers be directed towards the person magnetized.

"It is by the ends of the fingers, and especially by the thumbs, that the fluid escapes with the most activity. For this reason it is, we take the thumbs of the patient in the first place, and hold them whenever we are at rest. This process generally suffices to establish the communication; to strengthen which there is also one other process. It consists in placing your ten fingers against those of the

patient, so that the inside of your hands are brought near to the inside of his; and the fleshy part of your fingers touch the fleshy part of his, the nails being outwards. The fluid seems to flow less copiously from the back of the hands than from the inside; and this is one of the reasons for turning the hands in raising them, without carrying them off too far from the body.

"The processes I have now indicated, are the most regular and advantageous for magnetism by the long pass, but it is far from being always proper, or even possible to employ them. When a man magnetizes a woman, even if it were his sister, it might not be proper to place himself before her in the manner described; and also when a patient is obliged to keep his bed, it would be impossible to make him sit, in order to sit in front of him.

"In the first case, you can place yourself by the side of the person whom you wish to magnetize. First, take the thumbs, and, the better to establish the communication, place one hand upon the stomach, and the other upon the back, then lower the two hands opposite to each other, one down the back and the other at a distance down the forepart of the body; one hand descending to the feet. You may magnetize the two arms, one after the other, with one hand only.

"In case the patient cannot raise himself, take your station near his bed in the most convenient manner; take his thumbs, make several passes along the arms, and, if he can support himself upright, several along the back; then, not to fatigue yourself, use only one hand, placing it upon the stomach, and making longitudinal passes, at first slightly touching through the clothes, then at a distance. You can hold one hand fixed upon the knees or upon the feet, while the other is in motion. Finish by passes along the legs, and by transversal passes before the head, the breast, and the stomach, to scatter the superabundant fluid. When the communication is established, one can magnetize very well by placing himself at the foot of the patient's bed, and in front of him; then directing at that distance both hands from the head to the feet, dashing them aside after each pass so as not to conduct the fluid to himself. I have produced somnambulism by this process, without establishing the communication by touching.

"This is what I have to say about magnetism by the long pass, with which it is always proper to commence, and to which a person may confine himself until he has a reason for employing other processes."

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Convulsionists of Saint Medard.—The horrors which the famous convulsionists of Paris and other parts of France underwent, not only voluntarily but at their most earnest prayer and solicitation, has been often alluded to in connexion with animal magnetism, and as it very strikingly illustrates the effects of enthusiasm in rendering its victims insensible to external agents, we extract the following narrative of those events from Millingen's *Curiosities of Medical Experience.*

"This work of miracles, as it was called, was first performed by a priest of the name of Paris, in 1724, and, strange to say, the aberration continued for upwards of twelve years. Paris having departed this life in the odour of sanctity, (at least according to the conviction of the Jansenists, who had opposed with no little violence the famous bull *Unigenitus,*) the Appellants, for such they thought proper to denominate their sect, appealed to the remains of their beatified companion to operate miracles in support of their common cause. The Appellants were absurdly persecuted, therefore miracles became manifestations easy to obtain. Having succeeded in finding credulous dupes, the next step was to work their credulity into a useful state of enthusiasm. They therefore summoned all the sick, lame, and halt, of their sectarians to repair to the tomb of St. Paris for radical relief. Crowds were soon collected round his blessed sepulchre. It is now generally supposed that animal magnetism was resorted to in these curative operations, or rather religious ceremonies. Had not the means thus employed for the purpose been recorded and authenticated by the most irrefragible authorities, the sceptic might long pause before he would yield them credence.

"The patient (a female) was stretched on the ground, and the stoutest men that could be found were directed to trample with all their might and main upon her body; kicking the chest and stomach, and attempting to tread down the ribs with

their heels. So violent were these exertions, that it is related a hunchbacked girl was thus kicked and trampled into a goodly shape.

"The next exercise was what they called the *plank*, and consisted in laying a deal board on the patient while extended upon the back, and then getting as many athletic men as could stand upon it, to press the body down; and in this endeavour they seldom showed sufficient energy to satisfy the supposed sufferer, who was constantly calling for more pressure.

"Next came the experiment of the *pebble*, a diminutive name they were pleased to give to a paving-stone weighing two-and-twenty pounds, which was discharged by the operator upon the patient's stomach and bosom, from as great a height as he could well raise the weighty body. This terrific blow was frequently inflicted upwards of a hundred times, and with such violence, that the house and the furniture of the room, vibrated under the concussion, while the astonished by-standers were terrified by the hollow sound re-echoed by the enthusiast at every blow.

"Carre de Montgeron affirms that the *pebble* was not found sufficiently powerful, and the operator was obliged in one case to procure an iron fire-dog, (*chenet*,) weighing about thirty pounds, which was discharged as violently as possible on the pit of the patient's stomach at least a hundred times. This instrument having for the sake of curiosity been hurled against a wall, brought part of it down at the twenty-fifth blow. The operator further states, that he had commenced, according to the usual practice, by inflicting moderate blows, until he was induced by her lamentable entreaties to redouble his vigour, but all to no purpose; his strength was unavailing, and he was obliged to employ a more athletic surgeon, who fell to work with such energy that he shook the whole house. The Convulsionist, who was of the gentle sex, would not allow sixty blows she had received from her first doctor to be included in the calculation of the dose, but insisted upon having her whole hundred as prescribed. It further appears, that at each stroke the delighted enthusiast would exclaim in ecstacy, "Oh, how nice!" "Oh, how it does me good!" "Oh, dear brother hit away—again—again!" For be it known, these operators were called by the affectionate name of brothers, whose claims to fraternal affection were in the ratio of the weight of their kindness towards the sisterhood.

"One of these young ladies, who was not easily satisfied, wanted to try her own skill, and jumped with impunity into the fire, an exploit which obtained her the glorious epithet of Sister Salamander. The names that these amiable devotees gave to each other were somewhat curious. They all strove to imitate the whining and wheedling of spoiled children, or petted infants; one was called *L'Imbécille*, another *L'Aboyeuse*, a third *La Nisette*, and they used to beg and cry for barley-sugar and cakes; barley-sugar signified a stick big enough to fell an ox, and cakes meant paving-stones. The excesses of these maniacs were at last carried to so fearful an extent, and their religious ceremonies were so debased by obscenities, that the police was obliged to interfere, and forbid these detestable practices; hence it was affirmed that the following somewhat impious notice was suspended over the church-door:

De par le Roi, défence à Dieu,
De faire miracle en ce lieu.

"These lunatics, for such they must be considered, were not impostors. They had been worked to this degraded state by the plastic power of superstition, and implicit reliance was placed in their assertions; for, as Pascal said, "we must believe people who are ready to have their throats cut." Whether the Jansenist priests belonged to the same class, I leave to the reader to decide.

"Cabanis, in his interesting work, 'Rapports du Physique et du Moral de l'Homme,' offers the following remarks on this most curious subject: "Sensibility may be considered in the light of a fluid the quantity of which is determined, and which, when carried to certain channels in greater proportions than to others, must of course be diminished in the latter ones. This is evident in all violent affections, but more especially in those ecstacies where the brain and other sympathetic organs are possessed of the highest degree of energetic action, while the faculty of feeling and of motion—in short, the vital powers—seem to have fled from the other parts of the system. In this violent state fanatics have re-

ceived with impunity severe wounds, which, if inflicted in a healthy condition, would have proved fatal or most dangerous; for the danger that results from the violent action of external agents on our organs depends on their sensibility, and we daily see poisons, which would be deleterious to a healthy man, innocuous in a state of illness. It was by availing themselves of this physical disposition that impostors of every description and of every country operated most of their miracles; and it was by these means that the Convulsionists of St. Médard amazed weak imaginations with the blows they received from swords and hatchets, and which in their ascetic language they called *consolations.* This was the magic wand with which Mesmer overcame habitual sufferings, by giving a fresh direction to the attention, and establishing in constitutions possessed of great mobility a sense of action to which they had been unaccustomed. It was thus also that the *Illuminati* of France and Germany succeeded in destroying external sensations amongst their adepts, depriving them in fact of their relative existence."

Fracture of the Fifth Cervical Vertebra, without displacement of the body of the bone.—The *Western Journal of Medical and Physical Sciences, for* July, 1836, contains an interesting example of this related by HIRAM A. PROUT of Tuscumbia, Alabama. The subject of the case was a negro, æt. 30, who while wrestling with a companion, was thrown suddenly upon his neck, by having his feet tripped from the ground. The fall was immediately succeeded by a loss of motion and feeling in the shoulders and arms, in the walls of the chest and abdomen, and in the lower extremities. Though there was an entire loss of sensibility to the impression of external agents, he was subject to occasional and severe pains in all the paralyzed parts, and to constant and lancinating pains in his arms and shoulders. There was no external mark of injury over the spinous process of the fifth cervical vertebra; but a distinct crepitus was perceptible on pressure. His breathing was short and extremely laborious, being carried on alone by the action of the diaphragm. The muscles of the head and neck, above the origin of the phrenic nerve, maintained their integrity. His pulse and the temperature of his body were unaffected, until near the close of life; which occurred within forty-eight hours after the accident. On the day subsequent to the injury, he was affected with retention of urine and great abdominal distension; notwithstanding the peristaltic action of the bowels had been excited and met with no resistance from the paralyzed sphincter. There was no distension of the corpora cavernosa.

Dissection.—The rim or arch of the fifth cervical vertebra was fractured in three places, and the spinous process, with a part of the arch, was driven in upon the spinal marrow. There was a slight effusion of blood, between the sheath of the spinal marrow and the bone, and a considerable effusion between it and the substance of the cord. There was no material lesion of the medulla or of its investigating membranes; and the body of the bone was not fractured or displaced, at the intervertebral junction.

Professor HARE, by aid of his improved blowpipe, acted upon by heavy hydrostatic pressure, has succeeded in fusing platina in masses of ten and thirteen ounces avoirdupois. He exhibited to the American Philosophical Society, at a recent meeting, a mass fused by this means weighing about three quarters of a pound.

Dunglison's Medical Student.—This is a useful guide-book for medical students; containing information, which those who are about to commence the study of medicine, ought to possess. "In this humble production," the author informs us, in his preface, "his sole aim has been utility. He has been desirous of facilitating the labours of the young student in prosecuting a difficult profession, without any expectation that his labours would meet with much regard from the more advanced."

It includes a glossary of the terms of the science, and of the mode of prescribing; bibliographical notices of medical works; the regulations of different medical colleges of the Union, &c. &c.

THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

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THOMAS H. WRIGHT, M. D., *late Physician to the Baltimore Alms-house Infirmary.*

EDITOR—ISAAC HAYS, M. D., *one of the Surgeons to Wills' Hospital, &c.*

TO READERS AND CORRESPONDENTS.

Drs. Green and Dowler's communications have been received.

The following books have been received.—An Essay on the Diseases of the Jaws, and their Treatment; with Observations on the Amputation of a part, or the whole of the Inferior Maxilla; tending to prove that such operation is seldom, if ever, necessary—with two Plates. By LEONARD KOECKER, Surgeon Dentist, M. D., &c. London, 1828. (From the author.)

An Essay on Artificial Teeth, Obturators and Palates, with the Principles for their Construction and Application, illustrated by 26 Cases and 21 Plates. By LEONARD KOECKER, Dentist, &c. &c. London, 1835. (From the author.)

Elements of Surgery. By ROBERT LISTON, Fellow of the Royal Colleges of London and Edinburgh, &c. &c. E. L. Carey & A. Hart, Philadelphia, 1837. (From the publishers.)

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Observations on the Operation of Lithotomy, illustrated by cases from the practice of Prof. B. W. Dudley. By JAMES M. BUSH, M. D. (From the author.)

Lecture Introductory to the Course on Pathology and Practice of Medicine in the University of Virginia, for the Session of 1837-8. By R. EGLESFELD GRIFFITH, M. D. Published by the Class. Charlottesville, 1837. (From the author.)

Introductory Lecture to the Course of the Institutes of Medicine, delivered in the University of Pennsylvania, November 6th, 1837. By SAMUEL JACKSON, M. D. Philadelphia, 1837. (From the author.)

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A Clinical Lecture on the Primary Treatment of Injuries, delivered at the New York Hospital, November 22, 1837. By ALEXANDER H. STEVENS, M. D., Surgeon to the New York Hospital and emeritus Prof. of Clinical Surgery.

Clinical Guide, for the use of Pupils engaged in the Study of Clinical Medicine, or Preparing for Examination. By W. W. GERHARD, M. D., one of the Physicians to the Philadelphia Hospital, &c. Philadelphia, 1837. (From the author.)

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Catalogue of the Officers and Students of Dartmouth College, 1837-8.

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Gazette Médicale de Paris, July, August, September, and October, 1837. (In exchange.)

Bulletin Général de Thérapeutique Médicale et Chirurgicale, July, August, and September, 1837. (In exchange.)

Journal des Connaissances Médico-Chirurgicales, August, September, and October, 1837. (In exchange.)

Journal de Pharmacie, July, August, and September, 1837. (In exchange.)

Journal de Médecine et de Chirurgie Pratiques, August and September, 1837. (In exchange.)

Journal des Connaissances Médicales Pratiques et de Pharmacologie, October, November, and December 1836, January, February, March, April, May, June, and July, 1837. (In exchange.)

Archives Générales de Médecine, January, 1836, to July, 1837, inclusive. (In exchange.)

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The Edinburgh Medical and Surgical Journal, for October, 1837. (In exchange.)

The Medico-Chirurgical Review, for October, 1837. (In exchange.)

The Western Journal of the Medical and Physical Sciences, July, August, and September, 1837. (In exchange.)

The Select Medical Library and Eclectic Journal of Medicine, November and December, 1837, and January, 1838. (In exchange.)

The Southern Medical and Surgical Journal, September, and November, 1837. (In exchange.)

The Boston Medical and Surgical Journal, November and December, 1837, and January, 1838. (In exchange.)

The Medical Examiner, No.'s 1 and 2. (In exchange.)

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "Carey, Lea & Blanchard, Philadelphia, for the *Editor of the American Journal of the Medical Sciences*." All letters on the *business* of the Journal to be addressed exclusively to the publishers.

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XVI. A Practical Treatise on the principal Diseases of the Lungs, considered especially in relation to the particular tissues affected. By G. Hume Weatherhead, M. D., Member of the Royal College of Physicians; Lecturer on the Principles and Practice of Medicine, and on Materia Medica and Therapeutics at the Blenheim Street School of Medicine, &c. John Churchill. London: 1837. 8vo., pp. 184. One coloured plate - 453
XVII. A Clinical Lecture on the Primary Treatment of Injuries, delivered at the New York Hospital, Nov. 22nd, 1837. By Alexander H. Stevens, M. D., Surgeon to the New York Hospital and emeritus Professor of Clinical Surgery. New York: 1837. 8vo., pp. 34 - - - - - 454
XVIII. An Experimental Essay on the relative Physiological and Medicinal Properties of Iodine and its Compounds; being the Harveian Prize Dissertation for 1837. By Charles Cogswell, A. B., M. D., Member of the Royal College of Surgeons, &c. &c. Edinburgh: 1837 - - - - 454
XIX. Plates of the Cerebro Spinal Nerves, with references; for the use of Medical Students. By Paul B. Goddard, M. D., Prosector of Anatomy in the University of Pennsylvania; Member of the Academy of Natural Sciences, of the Philadelphia Medical Society, &c. Philadelphia: J. G. Auner. 1837. 4to., pp. 60, and 12 plates - - - - - - 455
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